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THE ENTIRE

WORKS

O F

Dr Thomas Sydenham,

Newly made *English* from the Originals :

WHEREIN

The History of acute and chronic Diseases,
and the safest and most effectual Methods
of treating them, are faithfully, clearly,
and accurately delivered.

To which are added,

Explanatory and Practical Notes,
From the best medicinal Writers.

By JOHN SWAN, M.D.

L O N D O N :

Printed for EDWARD CAVE, at *St John's Gate*.
M.DCC.XLII.

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Dr S H A W.

S I R,

I Beg leave to offer the following translation to you, as a small but sincere return of gratitude for the many singular obligations which I have received from you. Your favourable acceptance of it will gratify me to the utmost extent of my wishes, and I desire no better recommendation of my performance than the honour I am allowed of sending it into the world under your patronage; which I am the more proud of for the opportunity it gives me of professing myself in this publick manner,

S I R,

Your most obliged and

most humble servant,

JOHN SWAN.

TRANSLATOR'S PREFACE.

1. **T**HE great character that Dr Sydenham has justly acquired, both at home and abroad, is so well known to those who are conversant in the art of medicine, that it may seem unnecessary to enlarge upon it here. We are told by the late celebrated *Boerhaave*, that none among the moderns engaged him longer, or improv'd him more than *Sydenham*, to whose merit he has left this attestation, that *He frequently perus'd him, and always with greater eagerness*; and assured his pupils, that *no physician since the venerable Hippocrates has wrote of diseases with so much exactness.* (a) And elsewhere he laments, that *few if any of the modern writers on physic have attained to the perfection of the ancients. I can only* (says he) *mention one great man, THOMAS SYDENHAM, the ornament of England, and the Apollo of the art, whom I never consider but my mind presents me with the genuine picture of an Hippocratic physician, and to whom physic is so much indebted, that all that I can say will fall short of his merit.* (b)

2. Our author's works have been long esteemed the best practical system of physic extant, and as such is chiefly followed at this day by the most eminent physicians in *Europe*. So great a regard has been paid to his name by his countrymen, that
Dr

(a) *Metb. descend. art. med. p. 497.*

(b) *In oratione de commend. stud. Hippoc.*

Dr *Pechey's* translation has passed through no fewer than ten editions ; notwithstanding the disadvantages it labours under with respect to propriety, clearness, and accuracy ; disadvantages which some ingenious and eminent physicians have thought so great, as to render a new version not only desirable, but necessary.

3. As to the present translation, I have endeavoured to give it the free and easy air of an original, by adapting the diction to the genius and idiom of our language : and to make it still more familiar, I have used as few terms of art as possible, and studiously avoided obsolete and unusual phrases, and in many places also I have shortened or varied the manner of expression, for the sake of propriety and perspicuity, where-ever this could be done without injuring the author's sense.

4. Our author's entire works were never before publish'd together in *English*, nor any part of them with explanatory and practical notes, tending to illustrate his experienced methods of cure. ---The notes which I have annex'd are taken from the best modern writers (c), except a few which I have ventur'd to furnish ; so that besides Dr *Sydenham's* own judicious observations, the reader will here meet with the remarks of several eminent physicians upon most of the diseases he treats of.

5. To this edition I have likewise added *marginal notes*, a *copious index*, and the author's life : And have also

(c) Boerhaave, Hoffman, Baglivi, de Gorter, Goelicke, Heister, Geoffroy, Astruc, Mead, Shaw, Hoadly, Cheyne, Huxham, Hilary, Turner, Fuller, Perry, &c.

also divided it into number'd paragraphs, for the convenience of references.

6. These advantages and improvements will, I hope, render this new translation acceptable to the public, who may be assured, either that no additions will be made to it in any future impression, or that they shall be printed separate, with the necessary references, and delivered *gratis* to the purchasers of the first.

7. I shall conclude with observing one thing in my favour, which is, that I have not added to the multiplicity of bad books, but endeavour'd to introduce a known good one to a larger acquaintance, and make it more extensively useful, by rendering it more familiar, compleat, and intelligible.

THE AUTHOR'S PREFACE.

1. **S**INCE the human body is so formed by nature, as to be at some times alterable by the continual wear of its component particles, and the force of external agents, whence numerous diseases have in all ages arisen, doubtless the necessity of discovering a cure for them, must have put mankind upon studying physick, long before the birth of the *Grecian*, or even the *Egyptian Æsculapius*. Origin of
physick.

2. But as it would be difficult to assign the first inventor of houses and clothing, for defence against the injuries of the weather, so the origin of physick can scarce be discovered, notwithstanding that this art, as well as some others, must have always subsisted, tho' cultivated more or less diligently, according to the dispositions of different persons, countries, and ages. (a). Hard to be
trac'd.

3. The

(a) If it be allowed that physick had its origin from a principle of self-preservation, no science can lay claim to greater antiquity, it being almost coeval with the world; for it must doubtless have had a beginning soon after the fall; our first parents, and, through them, all mankind, being from thence render'd unavoidably subject to numerous diseases and casualties, and even death itself, in punishment of their fatal disobedience.

I do not, however, contend that physick was reduc'd into a science in the earliest ages, but was promiscuously practis'd, every man being his own physician: after a series of time, it grew up into a liberal art from a number of observations, experiments, and medicines, and so fell to the province of particular persons to exercise it, who from thence were entitled physicians. Thus we see, that physick had a being before there were any physicians; tho' it could not be properly called an art till it had its peculiar distinct professors.

In effect, it should seem highly probable, that sickness and pain must have necessarily excited mankind to seek for immediate relief: they could not be men, and be so thoughtless and insensible under

*Its antient
and modern
improvers.*

3. The performances of the antients in this science, and chiefly of *Hippocrates*, are well known; their works containing the most considerable part of the curative branch. And the following ages have produced some eminent men, who have spared no pains to render it more extensive by a close application either to anatomy, pharmacy, or practice: not to mention those of our own age and nation, whose endeavours in all the sciences that tend to improve this art deserve the praises of an abler pen. (*b*)

*The endeavours of the
author.*

4. But how considerable soever their attempts have been, I should always have esteemed myself an useless member of the faculty, had I not contributed my mite towards

these deplorable circumstances, as to neglect a search of such importance to their well-being. For it cannot be imagined that man alone should be so deaf to the voice of nature and reason, as not to be extremely solicitous, as well to preserve his health, as to restore it when lost, since we see that brutes are so strongly impell'd to both by mere instinct.

After all Enquiries of this kind, the truth and usefulness of a science are more to be consulted than its antiquity: 'tis from these excellencies we ought to form our opinion of it, and be induced to protect and encourage it, and not from its antiquity only, since this of itself adds no real value to any science, and is often found thro' a false and slavish veneration to give currency and sanction to very pernicious errors.

(*b*) Upon comparing the ancient state of physick with the scientific and truly useful improvements of the moderns, it will seem strange that so small a progress should have been made in the art; which must surely be ascribed to our having departed from the only just method of improving it by the joint help of reason and experience. Whoever carefully peruses practical writers, will find that they have advanced several things, concerning the causes and nature of diseases, contradictory to experience; as will manifestly appear by consulting a number of them upon any particular disease. Hence we see that great circumspection is necessary to prevent our being led into error. Again, experience teaches us a shorter and easier method of curing several diseases, than the common one; and to reason against fact is highly absurd: whence it follows that we ought not to confine ourselves to pursue strictly the generally received methods of cure, but to forsake the beaten path occasionally, as reason and experience shall direct.

towards the improvement of physick. And upon this account, after long deliberation, and many years close and faithful observation, I resolv'd, (1.) to communicate my thoughts relating to the manner of making farther advances in physick; and (2.) to publish a specimen of my endeavours in this way.

5. Now I judge that the improvement of physick depends (1.) upon getting as genuine and natural a description, or history of all diseases, as can be procured, and (2.) a fix'd and complete method of cure. (c) It is easy enough to describe diseases unskilfully, but to write such a full and accurate history of them as to escape the censure that lord Bacon has pass'd upon some great promisers in another way, is a much more difficult task. “ *We are not to learn, says the noble author, that we have a voluminous natural history, which is agreeable by the variety of its matter, and by the pains bestow'd upon it render'd curious and entertaining in many places: but if it were stript of its fables, quotations, trifling disputes, philology, and other ornaments, that are fitter for the conversation of learned men at their hours of relaxation, than for institutes of philosophy, the matter of it would be brought into a* *The ways of improving physick.*

b 2

“ *very*

(c) The history of diseases, says Baglivi, or the *medicina prima*, ought to be distinguish'd from the curative part, or the *medicina secunda*. The former is a science *sui generis*, and is only to be drawn from the pure and uncorrupted springs of nature; or to speak more properly, depends upon a plain and accurate description of distempers, as they appear in their beginning, height, increase, declension, and termination, to the diligent and judicious observer. The *medicina secunda*, or the curative branch of the art, may, I confess, be much improv'd by an application to other sciences, especially to those that have any relation to physick, or may be consider'd as branches thereof; amongst which chemistry, botany, the knowledge of the six non-naturals, experimental philosophy, anatomy, and the like, may be enumerated, which eminently contribute towards the perfection of the method, and the deriving the curative indications from every the least circumstance. *Baglivi op. p. 14, 15.*

“ *very narrow compass. Such a history falls far short of our design.*” And thus the cure of diseases is easily delivered according to the common method, but to do it compleatly, will appear a much harder task to those who know that there are abundance of distempers to be met with in practical writers that still continue incurable.

The history of diseases a work of difficulty.

6. But with regard to the history of diseases, whoever considers the undertaking deliberately, will easily perceive that the author must attend to several more particulars than are ordinarily minded, a few of which I shall mention at present.

Diseases to be reduced to certain kinds.

7. (1.) All diseases then ought to be reduc'd to certain and determinate kinds, with the same exactness as we see it done by botanic writers in their treatises of plants. For there are diseases that come under the same *genus*, bear the same name, and have the same symptoms in common, which, notwithstanding, being of a different nature, require a different treatment. Thus it is generally known, that the word *carduus* is extended to several kinds of herbs, and yet a botanist would be guilty of inaccuracy, who should content himself with giving a general description of the plant, and enumerating the marks, wherein it differs from all others, and in the mean time take no notice of the peculiar characteristics of every species, which distinguish them from one another. In like manner, it is not sufficient for a writer to deliver only the common signs or appearances of any disease: for tho' the same variety does not happen in all distempers, yet, I hope to make it plainly appear in the following sheets, that there are several, which, notwithstanding their being treated of by authors under the same name, without any distinction of kind, are extremely different.

But not to support any hypothesis.

8. Furthermore, where we meet with this distribution of distempers into kinds, it is commonly done to maintain some hypothesis, founded upon the true phenomena ;

nomena; and hence this distinction is rather adapted to the bent of the author, and his manner of philosophising, than to the nature of the disorder. How much the improvement of physick has been obstructed by this defect appears in not a few diseases, the cure of which would not have been undiscovered at this day, if the writers of experiments and observations had not been impos'd upon in their own particular, by taking one disease for another. And to this cause I esteem it owing, that the *materia medica* is so immensely enlarged, and yet with little advantage to the diseas'd.

9. (2.) In writing, therefore, a history of diseases, every philosophical hypothesis which hath prejudic'd the writer in its favour, ought to be totally laid aside, and then the manifest and natural phenomena of diseases, however minute, must be noted with the utmost accuracy; imitating in this the great exactness of painters, who, in their pictures copy the smallest spots or moles in the originals. For 'tis difficult to give a detail of the errors that spring from hypotheses, whilst writers, misled by these, assign such phenomena for diseases, as never existed, but in their own brains; whereas they ought to appear clearly, if the truth of the hypothesis, which they esteem fixed and certain, were well establish'd. Again, if any symptom properly suiting their hypothesis, does in reality belong to the disease, to be describ'd, they lay too much stress upon it, as if it were every thing they wanted, whereas, on the contrary, if it seems repugnant to their hypothesis, their manner is, either to take no notice at all of it, or but barely to mention it, unless they can by means of some philosophical subtlety, adjust it thereto, and bring it in some measure to answer their end. (d).

No hypothesis to be us'd in writing a history of diseases.

10.

(d) Hypotheses owe their origin to ostentatious vanity and idle curiosity; whence 'tis easy to conceive how much they must needs obstruct the improvement of physick, which is a science that depends chiefly upon well-conducted experiments and close and faithful observation;

The proper and accidental symptoms to be particulariz'd in describing a disease.

10. (3.) Again, in describing any disease, it is necessary to enumerate distinctly both the peculiar and constant phenomena, or symptoms, and the accidental ones, of which latter kind are those proceeding from the age and constitution of the patient, not omitting the different method of cure. For the appearance or outward look of a disorder often changes with the method of cure, some symptoms being rather occasioned by the physician than the disorder itself: so that persons labouring under the same illness, being differently treated, have different symptoms. And hence, unless great caution be us'd in this point, our notions of the symptoms of diseases, must necessarily be very loose and imperfect: not to mention that uncommon cases do not more properly belong to the history of diseases, than the biting of the palmer-worm, in describing *sage*,
is

servation; whereas hypotheses are always built in great part upon feign'd, precarious, and often very obscure principles; so that they may aply enough be stil'd the unshapely production of a lively and wanton imagination. The humour of over-looking familiar and obvious effects, to search after their secret and absolutely undiscoverable causes, is an error of very antient date, and hence physick has ever been pester'd with hypotheses, the multitude and precariousness whereof have only serv'd to render the art uncertain, fluctuating, fallacious, mysterious, and in a manner unintelligible.

And if their usefulness and bad tendency be consider'd, it should seem strange that they should have prevail'd so long, and still maintain their ground; for certain it is that not a single medicine has been discovered by their assistance, since the Introduction of them into physick above two thousand years ago, nor have they let in the least light into the affair of administering medicines properly in particular circumstances, but rather serv'd to bewilder us, to perplex practice, and create disputes that are never to be decided without having recourse to experience, the true test of opinions in physick. Indeed, as all hypotheses are chiefly founded upon suppositious and unsettled principles, it were folly to expect truth, and certainty from them. See pag. 250. note (o)

is to be reckon'd amongst the characteristic marks of that plant. (e)

II. (4.) Lastly, the seasons of the year that principally promote any particular kind of diseases, are to be carefully remark'd. I own that some happen indifferently at any time, whilst many others, by a secret tendency of nature, follow the seasons of the year with as much certainty, as some birds and plants. And indeed I have often wonder'd that this tendency of some distempers, which is very obvious, has been hitherto observed but by few, whereas abundance of persons have, with great exactness, noted under what planet plants spring, and brutes ingender. But from what cause soever this inadvertency proceeds, certain it is that a knowledge of the seasons, in which diseases ordinarily

The seasons of the year to be carefully noted.

b 4. arise

(e) *Hippocrates*, by closely attending to observations discovered that diseases have certain constant and individual symptoms, and others that are adventitious, or casual, and common to other distempers, and that the former depend upon the identical and constant nature of the disease, and the latter either upon the different treatment of the patient, or the numerous and always various assemblage of causes. The first he form'd into aphorisms, as the rules of the art, and left the latter to the judgment of the physician.

The constant symptoms which may be call'd the characteristic signs of diseases, sometimes strike the senses, and sometimes lie conceal'd, and can't be accounted for in a probable way. And, nevertheless, whatever they are, they ought not to be overlook'd by the physician, but should be faithfully noted, just as they appear. For as the curative indications are taken from every the least circumstance, so the least motions of diseases, tho' somewhat obscure, are to be investigated, and describ'd; by which means we shall not only be furnished with a complete history of distempers, but a method of cure likewise, which is still more valuable. To the obscure motions of diseases may be referr'd the critical days, the secret changes of diseases amongst themselves, their translation to one part rather than another, the latent mutual consent of the parts, the periods of diseases, and their increase at set hours, which happens in some kind of pains, in fevers also, and several other disorders. *Baglivi op. p. 6, 7.*

The usefulness of a history of diseases to practice.

arise, is of great use to a physician towards discovering the species of the disease, as well as the method of curing it; and that the consequence of flighting this piece of knowledge, is ill success in both.

12. These are some of the most remarkable, tho' not the only particulars to be observed in writing a history of diseases; the usefulness of which to practice is not to be estimated, neither are the subtle enquiries, and trifling notions, with which the writings of the moderns are stuffed worth comparing with it. (*f*) For, is there a shorter, or indeed any other way of coming at the morbid causes we are to encounter, or of discovering the curative indications, than by a clear and distinct perception of the peculiar symptoms? Even the smallest circumstance is of use to both these purposes. For allowing that some variety happens from the constitution of particular persons, and the method of cure, yet nature notwithstanding acts in that orderly and unchangeable manner in producing distempers, that the same disease appears attended with the like symptoms in different subjects: so that those which were observ'd in *Socrates*, in his illness, may generally be applied to any other person, afflicted with the same disease, in the same manner as the general marks of plants justly run thro' the same plants of every kind. Thus for instance, whoever describes a violet exactly as to its colour, taste, smell, form, and other properties, will find the description agree in most particulars with all the violets in the universe.

13. 'Tis

(*f*) Nothing eminent can be done in the prognostic, and especially in the curative part of physick, without an accurate and circumstantial history of diseases; for how is it possible to foretell what will happen in a distemper, and proceed properly in the cure, if we are ignorant of the constant and fortuitous symptoms attending it, and the general progress of it from the beginning to the end, when nothing intervenes to obstruct its ordinary course, whether from mismanagement, accident, or otherwise?

13. 'Tis my opinion, that the principal reason of our being yet without an accurate history of diseases, proceeds from a general supposition that diseases are no more than the confus'd and irregular operations of disorder'd and debilitated nature, and consequently that it is a fruitless labour to endeavour at a just narration of them. (g)

Why we yet want an accurate history of diseases.

14. But to resume our subject: a physician may likewise collect the indications of cure from the smallest circumstances of the distemper, as certainly as he does the distinguishing signs from them. (h) And for this reason

The curative indications to be gather'd from the smallest circumstances.

(g) A close and diligent search into the rise, progress, and termination of diseases will clearly shew the contrary, nature acting with great steadiness and uniformity in producing, carrying on, and terminating diseases, provided she be not forc'd out of the way by some accident, or improper means; so that if application and judgment be not wanting, 'tis not impossible to give a just and orderly detail of all the symptoms and appearances, without omitting the minutest particular.

For the causes that have hitherto prevented our having a full and particular history of diseases, and the rules to be observed in writing one, we can't do better than refer the reader to the second and third chapters of the second book of the judicious and industrious *Bagli-vi's praxeos medica*, where he will find these matters treated with great clearness, accuracy, and judgment.

(h) The curative indications in distempers can't be more certainly deriv'd than from the most threatening and prevailing symptoms, which chiefly manifest the nature and violence of the disease. If therefore, for want of noting, and duly considering all circumstances, and especially over-looking the effects of all that is given, or applied to the patient, we mistake in the indications of cure, we must needs go wrong, and do mischief.

The forming just indications then being a matter of the highest importance, we ought to make use of all the helps we can procure in order thereto, by attending to every thing that falls under the notice of the senses, the procedure of nature from the beginning of the illness to the time we are call'd, the strength of the patient at this time, the cause of the disease, the season of the year, the then reigning distempers, the sex, age, and constitution of the patient, &c. all which particulars being maturely con-

con-

The Author's preface.

reason I have often thought, that if I had a just history of any disease, I could always procure a suitable remedy for it: its different phenomena, or symptoms, manifestly shewing the way to be followed, and being carefully compar'd together, would lead us, as it were by the hand, to those obvious indications that are gathered from a thorough insight into nature, and not from the errors of the imagination.

*What made
Hippocra-
tes so excel-
lent a phy-
sician.*

15. By these steps and helps the great *Hippocrates* arrived at the highest pitch of physick, who, after laying down this solid and fixed foundation to build the art upon, has clearly delivered the symptoms of every disease without deducing them from any hypothesis, as appears in his books concerning *diseases*, &c. He has likewise left us some rules drawn from the observance of nature's method of promoting and removing distempers; such are his *prognostics*, *aphorisms*, and other writings of this kind. Of these particulars the theory of this venerable father of physick chiefly consisted, which not being deduced from the insignificant fallies of a wanton imagination, like the dreams of distempered persons, exhibited a genuine history of the operations of nature in the diseases of mankind. Now his theory being no more than an exact description of nature, it was highly reasonable that he should aim in his practice only at relieving diseased nature by all the means he could employ; and hence, likewise, he required no more of art, than to assist nature when she languish'd, and to check her, when her efforts were too violent; and to accomplish both these ends by the steps and method whereby she endeavours to expel the disorder: for this sagacious observer found that nature alone terminates distempers, and works a cure with the assistance of a few

considered and compar'd, will certainly direct us to the genuine curative indications, whence we may hope to succeed in the cure, or at least to secure our reputation by making the danger known, and foretelling the fatal consequence that is likely to ensue.

few simple medicines, and sometimes even without any medicines at all. (i)

16. (2.) The other method of improving physick further, consists chiefly, in my opinion, in delivering a fixed and every way complete method of cure; such a one, I mean, as hath been sufficiently establish'd and verified by a competent number of experiments, and found effectual to cure any particular disease. For I conceive it not enough to publish the particular success of any method or medicine, if neither are generally found to answer the end in all cases, at least in the same given circumstances. But I maintain that we ought to be as certainly assured that a particular disease may be con-

Physick further improved by delivering a complete method of cure.

quered

(i) Whoever will be at the pains of perusing the writings of *Hippocrates* with due attention, will find him justly entitled to the eminent character he has enjoy'd for so many ages, and is likely to preserve to latest time. We meet with manifest proofs there of his being possess'd in an extraordinary degree of the most essential qualifications of a physician; a more than common attention in observing all the different phenomena of diseases, and a profound judgment to apply this knowledge in the fittest manner to practice.

He remarked with surprising exactness all that preceded distempers, the symptoms that accompanied them, and what did good or hurt upon every occasion. And indeed his steady and close application to acquire this truly useful part of medical knowledge, which he justly held in the highest esteem, left him neither inclination nor leisure to prosecute enquiries of less consequence with diligence enough to make any considerable progress therein. He greatly improved the art by being at the pains of collecting a large number of observations in order to discover the issue of distempers, as to life or death, and to be able to foretell what would happen in all the cases that came under his care: and he made so extraordinary a proficiency in this branch of the art, that his writings contain the best set of prognostics, that are to be met with in any writer at this day. Upon enquiry, I fear it will be found, that most have copied from him in this point, and few added any thing to his discoveries.

It is on all hands allowed that he found physick in a very confused and imperfect state, and left it much mended both in point of method and certainty. Whence he has been all along respected as the restorer and founder of the art.

quered by answering a certain indication, as we are of answering a particular indication by some certain medicine, that will generally produce the desir'd effect; thus, for instance we purge with *senna*, and cause sleep with *poppies*. However, I do not deny but that the physician ought to attend carefully to the particular success both of the method and medicines he uses in curing diseases, and to set them down for the ease of his memory, as well as the improvement of his knowledge; so that at length, after many years experience, he may fix upon such a method of curing any particular disease, as he need not in the least depart from. (*k*)

*The inutili-
ty of pub-
lishing par-
ticular ob-
servations.*

17. But the publishing particular observations is not so useful, in my opinion; for if the observer only intends to inform us that a particular disease hath yielded once, or oftener, to such a medicine, of what advantage is it to me, that a single medicine, which I knew not before, is added to the immense stock of eminent medicines, that we have long been pester'd with? But if laying aside all other medicines, I should use only this, ought not its virtues to be approved by numerous experiments? And are there not also numberless other

(*k*) It were highly to be wish'd that we had such a certain general method of cure, as our author here describes, which might be acquired, one would think, if physicians would unanimously set about it in earnest. To adapt it to our own nation; our climate, the air we breathe, the winds that most frequently blow, our manner of living, the diseases we are most subject to, the medicines that agree best with our constitutions, the situation, soil and water of particular places, and the like must be known, and exactly noted. Upon these principles a general method of cure might be established in most distempers, from which we need only depart occasionally, as particular circumstances and exigencies may require.

In perusing the writings of physicians of a different nation, with this view, let it always be remember'd, that they are foreigners, and treat of diseases as they appear with them respectively, and suit the method of cure to the place of their residence, inasmuch that their rules cannot be safely followed by us any further than they shall be found to correspond with our own observations.

Other circumstances relating both to the patient and the method of cure to be considered before any advantage can be reap'd from a single observation? If the medicine never fails, why does the observer deal only in particulars, unless it be that he distrusts his skill, and judges it easier to impose upon the publick in part, than in the whole? (1) But how easy a task it is to write large volumes of this kind, can be no secret to one that is but little acquainted with practice; as, on the contrary, how difficult it is to lay down a perfect, and every way complete method of cure in any disease. If only one person in every age had treated but one disease in this manner, physick would have been brought to as much perfection many years ago, as the condition of mankind will admit. But our misfortune proceeds from our having long since forsook our skilful guide
Hip-

(1) The author here should seem not to have sufficiently attended to the advantages derivable from faithful and accurate observations, which are the principal foundation of the pathological and curative branches of physick. For experience, the soul of the art, is the result of a number of such observations made by ourselves and others, and physick is much more indebted to them for its improvement, than to all the discoveries that have ever been made in the art, and all the hypotheses that have been invented with this specious design; many things happening daily in the course of distempers, which being exactly noted, greatly contribute to direct us in the like cases, tho' it may be they cannot be accounted for in a satisfactory manner. But to render them truly useful, I confess they should be wrote with much more exactness than they generally are, and no circumstances of any moment omitted from the beginning to the ending of the distemper, as well relating to the course thereof, as the method of cure employ'd, setting down the medicines that were exhibited from day to day, and the effects they had, and specifying likewise the diet, regimen, &c. in a very particular manner. Many of the observations delivered both by the ancients and moderns labour under great defects, and are so far from being complete, that they do not deserve the name of observations, but ought rather to be entitled fragments of observations, and of course are of little or no use to guide the practical physician in the true method of cure.

Hippocrates, and the antient method of cure, founded upon the knowledge of conjunct causes, that plainly appear: infomuch that the art which is at thisday practic'd, being invented by specious reasoners, is rather the art of *talking* than of *healing*. But that I may not seem to advance this assertion without sufficient grounds, I beg leave to make a short digression from the subject, in order to prove that the discovering and assigning of remote causes, which engross the thoughts, and feed the vanity of curious enquirers, is an impossible attempt, that only immediate and conjunct causes fall within the compass of our knowledge, and that from these alone the curative indications are to be taken. (*m*)

Remote
causes not
to be disco-
ver'd.

Reasons to
prove this
assertion.

18. Accordingly, it must be observed, that if the humours are retain'd in the body beyond the due time, either (1.) because nature cannot digest and afterwards expel them, or (2.) from their having contracted a morbid taint from a particular constitution of the air, or (3.) lastly, from their being infected with some poison: by these, I say, and the like causes, these humours are work'd up into a substantial form, or species, (*n*) that discovers itself by particular symptoms, agreeable to its peculiar essence; and these symptoms, notwithstanding they may, for want of attention, seem to arise either from the nature of the part in which the humour is lodged, or from the humour itself before it assumed this species, are in reality disorders that proceed from the essence of the species, newly raised to this pitch: so that every specific disease arises from some specific exaltation, or peculiar quality of some humour contain'd in a living body. Under this kind may be comprehended most diseases, having a certain form or appearance ;
nature

(*m*) See pag. 45. Note (*a*) and pag. 486. Note (*q*)

(*n*) Or, in plainer language, the humours undergo such a change from some one of these causes, just mentioned, as to occasion a distemper, attended with the peculiar symptoms, proceeding from this change, and agreeable to the nature of the distemper hereby form'd.

nature in fact observing the same uniform method in producing and bringing diseases to a height or *crisis*, as she does in the production or growth of plants or animals. For as every plant or animal is possess'd of peculiar properties, so is it likewise in every exaltation of any humour after its being come to a species, or disease. We have a clear proof of this every day in those kinds of excrescences that grow on trees and shrubs, (occasioned by the ill quality of the nutritious juice, or other causes) in the form of moss, mistletoe, mushrooms, and the like ; all which are manifestly different essences, or species, from the tree or shrub that bears them.

19. In reality, whoever attentively considers the phenomena, or symptoms, accompanying a *quartan fever*, viz. that it always comes towards *autumn*, and keeps a certain course, or appearance, the fits or periodical revolutions of it returning as certainly every fourth day, as a clock renews its rounds, unless this regular course be interrupted by some external agent ; that it begins with a shivering, and a great sense of cold, which are succeeded by as sensible a degree of heat, which terminates at length in a profuse sweat ; and lastly, that whoever is seiz'd with this disorder, is seldom cur'd before the vernal equinox. I say, whoever duly considers these particulars, will find as strong reasons to believe that this distemper is a species, as a plant is one, which in like manner springs out of the earth, flowers, and dies, and is in other respects affected agreeably to its nature or essence. For it is not easy to comprehend why this disease should arise from a combination of principles and manifest qualities ; whilst a plant is on all hands allow'd to be a substance and distinct species in nature. However, in the mean time we do not deny but that as most kinds of animals or plants subsist of themselves, so on the contrary the species of distempers depend on those humours that produce them.

Further proved by a quartan fever.

*Diseases
curable tho'
their re-
mote causes
cannot be
discovered.*

20. But tho' from what has been delivered the causes of most diseases should seem absolutely undiscoverable, yet the question, *how they may be cured*, may be answered, inasmuch as we speak here only of their remote causes. Now 'tis easy to observe that the curious enquirers into these causes lose their labour, whereas they overlook the immediate and conjunct causes that come in sight, and must necessarily and may be discovered without such trifling helps, inasmuch as they disclose themselves to the understanding, fall under the notice of the senses, or may be learnt from the anatomical observations of our predecessors. And as it is plainly impossible a physician should discover those causes that have not the least correspondence with the senses, so neither is it necessary: 'tis sufficient for him to learn the immediate causes, and those effects and symptoms of a distemper, that may enable him to distinguish accurately between this and another similar disease. Thus for example, in a *Pleurisy* it is a fruitless labour to search into the ill quality and broken texture of the blood, whence this disease originally proceeds; which are not to be comprehended, but whoever perfectly understands the immediate cause thereof, and can distinguish it from all other distempers will cure it no less certainly, even without attending to the useless and trifling search after remote causes.-----But this by way of digression.

*Specifics
wanting
towards the
further im-
provement
of physick.*

21. But if it be asked now, whether besides the foregoing *desiderata* in physic, viz. (1.) a true history of diseases, and a certain (2.) and establish'd method of cure, a third may not be added, namely, the discovery of *specific* remedies? I answer in the affirmative, and wish as much as the querist to see it effected. For tho' that should seem the best method of curing acute diseases, which, after nature has pitch'd upon a certain kind of evacuation, assists her in promoting it, and so necessarily contributes to cure the distemper; it is nevertheless to be wish'd that the cure might be shortened by means of

spe-

specifics, (if any such medicines can be discovered) and, which is of more importance, that the patient might be secur'd from the evils which are the consequence of those errors that nature cannot help committing in expelling the cause, even tho' she is assisted in the most effectual and skilful manner by the physician. (o)

c

22. As

(o) A want of specifics in physick is a complaint of long standing, and yet no due care has been taken to supply the deficiency. The few we have would have stood upon a much surer foundation, if their effects under all the different circumstances they may have been given, had been diligently noted and register'd; for by this means we should have been furnish'd with a set of rules, directing how and when to exhibit, or not exhibit them, as well as useful cautions to render them more beneficial. The best medicines often fail merely for want of administering them judiciously; for supposing them to have undergone no change for the worse, by keeping, or unskilful preparation, it is manifest they must needs always produce similar effects in nearly the same given circumstances: so that when they do not, the fault is not in the medicine, but proceeds from their being exhibited improperly, without distinguishing with the accuracy requisite in cases of this nature.

Certain it is, that a true specific is of that real value, that a person would be amply rewarded for his pains, who by making a diligent enquiry after this kind of medicines, should discover but one in his whole life. In order to proceed in such a method as may afford some hopes of success, it might not be amiss, (1.) to get a clear conception of what is meant by a *specific*, which may perhaps be defin'd, "a medicine possess'd of such peculiar virtues, as infallibly to relieve, or cure the particular disorder, for which it is used, being exhibited as nearly as can be in the same given circumstances". (2.) The next thing to be done is to form a set of rules to direct him methodically in the enquiry and manner of making proper trials, so as not to run the risque of his reputation, or injure the patient. Natural and experimental philosophy, mechanics, anatomy, botany, chemistry, &c. are to be studied with this view: and not a few helps may be had from analogy and comparative anatomy and medicine. (3.) The success and failure of a specific in the several cases it is given are to be carefully and faithfully register'd, not omitting the least particular; so that a right judgment may be form'd of the efficacy, or insignificancy of the medicine employ'd, and physicians accordingly be encourag'd to have recourse to it upon the like occasions, or taught to reject it. A part of this note is taken from *Baglivi. See his prax. med. p. 224. &c.*

A method
wanting in
the cure of
chronic di-
seases.

22. As to the cure of *chronic diseases*, tho' I believe that more advantage may be expected from the use of a *method* only, than can be conceiv'd at first, yet 'tis plain that this is wanted in the cure of some of the most considerable distempers of this kind, which happens chiefly for this reason, that nature is not possess'd of so effectual a method of expelling the morbid matter in *chronic* as in *acute* diseases, which might enable us to conquer the distemper, by assisting her, and aiming at the true end. In eradicating a *chronic* disease, therefore, whoever is possess'd of a medicine, powerful enough to destroy the species of it, justly deserves the name of a physician ; which he has no right to, who only introduces a new one from the first and second qualities, instead of the former, which may indeed be done without abolishing the species. Thus, for instance, a person that has the gout may be heated or cool'd without curing the distemper ; specific diseases being not more immediately cur'd by this method, which is only introductive of different qualities, than fire is extinguished by a sword. For pray what does heat, cold, moisture, dryness, or any of the second qualities contribute towards the cure of a distemper, the essence of which consists in none of these ?

There are
fewer spe-
cifics than
are imagin-
ed.

23. But if it be objected, that we have long been possess'd of a sufficient number of *specifics*, I answer, that the contrary will soon appear, provided a strict search be made into this particular : the *Peruvian* bark being the only one we have. For there is a wide difference between medicines that *specifically* answer some certain curative indication, which, being effectually perform'd, perfects the cure, and those that *specifically*, and immediately cure a disease, without regarding any particular intention, or curative indication. To exemplify this : *mercury* and *sarsaparilla* are usually reckon'd specifics in the venereal disease, tho' they ought not to be deem'd proper and immediate specifics, unless it could be demonstrated by undeniable instances, that

mercury

mercury has prov'd a cure without causing a *salivation*, and *sarsaparilla* without raising a *sweat*. (p) For other diseases are cur'd in the same way by other evacuations, and nevertheless the medicines exhibited for this purpose do no more immediately contribute to the cure of the diseases that yield to those evacuations, which these medicines are principally design'd to promote, than a lancet does towards the cure of a *pleurisy*; which no body, I imagine, will call a specific in this disorder.

24. Specific medicines, therefore, consider'd in our limited sense of them here deliver'd, are allotted but to few persons, and are not to be discover'd without much application, and yet I am well persuaded that nature, by the appointment of providence, abounds with such remedies for the preservation of mankind, who hath likewise provided that the principal diseases we are subject to should be cur'd, and that by such medicines as are within reach, and the produce of every climate. It is indeed pity that we are not better acquainted with the virtues of plants, which I esteem the best part of the *materia medica*, and most likely to afford such medicines as we have just treated of. For the parts of animals should seem to resemble the human body too nearly, and minerals to differ too much therefrom; and hence it is, I ingenuously own, that minerals more effectually answer indications, than medicines prepar'd from animals or plants do, but yet not specifically, in the

*More might be discover-
ed by taking
due pains.*

*A misfor-
tune that
the virtues
of plants
are not bet-
ter known.*

(p) I see no just reason for excluding from the number of specific medicines, mercury, as a cure for the venereal disease, milk in one stage of a consumption, opium in pains, soap in some kinds of the jaundice and the stone, the fetid gums in some hysteric disorders, nor oil in the bite of a viper; since they all seem peculiarly adapted to relieve or cure the respective disorders, just enumerated.

Besides, to think that not a single specific should have been discover'd by the united labours of a surprising number of learned and indefatigable men is more than enough to discourage the most sanguine person from a search that is so little likely to afford him an equivalent for his pains. For if the *bark* be indeed the only specific we have, that was a casual discovery, and not the fruit of study and experience.

the sense and manner above-mentioned. For my own part, I can only say that I have spent some years in researches of this kind, yet without succeeding well enough to encourage me to communicate the result of my enquiries. (q)

Other excellent medicines besides plants.

25. But tho' I esteem plants most, yet I would not decry those excellent medicines, the productions of a different kingdom, that have been discover'd by the application of our predecessors, or contemporaries, and found to answer the curative indications effectually. Amongst these, Dr Goddard's drops claim the first notice, which are prepared by Dr Goodall: I prefer them to all other volatile spirits, on account of their efficacy and virtue in answering the purposes for which they are given. (r)

The author publishes a history of acute diseases.

26. To conclude: having engag'd myself in this preface, to publish a specimen of my labours for the improvement of physick, I will now endeavour to fulfil

(q) There does not seem to be so much reason for this complaint now as there might be in our author's time, much pains having been taken of late years by several skilful persons, both in the way of analysis and experiment, in order to discover and settle their virtues upon a surer foundation. And nevertheless, if this part of the *materia medica* were much more contracted, and plants only of known and approv'd virtues used, the curative method would probably receive very considerable improvements, inasmuch as the prescriber would not be at a loss to chuse in so small a number, and be abundantly better satisfied of what they can and cannot do, by the frequently repeated trials he would be obliged to make of the few that should be judg'd worth retaining.

To this may be added, that plants and simple medicines have great advantages over compounds: thus they are more safe and certain than the latter, and we are seldomer deceiv'd in them, because they cannot be so readily adulterated, and may be given in substance, or require only a few easy operations to fit them for use; whereas the best compounds are often spoil'd by unskillful preparations.

(r) The medicine that goes under this name is an highly volatile oleous alkaline spirit, drawn from dead silk-worms and their remains, and extoll'd for giving relief in convulsions from acidities, or worms: but the present practice takes no notice of it.

fil my promise, by presenting the publick with the history and cure of *acute* diseases. And tho' in executing this design, I am sensible I shall expose the fruit of my labours for the best part of my life to the lazy and ignorant, yet I am too well acquainted with the disposition of this degenerate age to expect any thing but censure and contumely in return; knowing that I should have gain'd more reputation by advancing some trifling and useless speculation: but be that as it will, I hope to be rewarded elsewhere. (s)

27. If it be objected here, that there are those no less vers'd in practice than I am, who are of a different opinion; I answer, that 'tis none of my business to enquire into what other persons think, but to establish my own observations; in order to which, I ask no favour of the reader, but to peruse my writings with temper:

The author only solicitous to establish his own observations.

(s) Our author, however well he deserv'd of mankind, should seem to have had but too much reason to apprehend that his laudable endeavours to serve them, instead of procuring him their esteem and regard as they ought to have done, would expose him to the envy of the ignorant, the hatred of the vicious, and the contempt of the prejudic'd part of mankind. He expected to meet with little else but censure and contumely from an ingrateful world, in return for his generous and honest labours; and 'tis to be fear'd he was not disappointed in the issue. See pag. 110. par. 40. pag. 272. par. 3. pag. 414. par. 140. pag. 416 & 493.

But what the malice, envy, and prejudice of some of his contemporaries refus'd him living, has been abundantly made up to him since his death; for no one, the great *Hippocrates* himself not excepted, ever stood possess'd of a fairer reputation than he has since enjoy'd, and still bears. His judgment, integrity and candour are universally acknowledg'd and applauded: the physicians of our own nation have recourse to his writings as an oracle, and foreigners never mention him without the most honourable titles, and to sum up all in one, many of them call him the *English Hippocrates*. We tread in his steps at this day with success, and without the spirit of prophecy I may venture to foretel that our successors will do the same, and that as long as there shall be able and honest physicians, our excellent author will be remember'd with the highest gratitude and esteem, and his methods of practice pursued.

temper : for the subject itself will soon shew whether I have acted with sincerity, or on the contrary, like the most profligate wretches, endeavoured to destroy my fellow creatures after my decease. (t) I only beg pardon for having deliver'd the history and cure of diseases with less accuracy than I intended, being sensible that I have not compleated my design, but rather excited men of greater abilities to undertake the finishing of a performance hereafter, that I have here executed imperfectly.

Gives few particular observations to avoid swelling the work.

28. And now I have but one thing more to inform the reader of, which is, that I do not intend to swell the following sheets with a multitude of particular observations in confirmation of the method therein delivered ; for it would be both needless and tiresome to repeat those things particularly which I have comprised in a summary way. I esteem it sufficient to subjoin occasionally a particular case, containing the substance of the preceding method, at the conclusion of every general observation, at least with respect to late years. And I declare that I have publish'd no general method, that has not been establish'd and verified by frequent experience.

and only a few prescriptions.

29. Whoever expects to meet with abundance of prescriptions will be disappointed ; it being left to the judgment of the physician to prescribe as the circumstances may require. I have done my part by mentioning the indications to be answered, and pointing out the time and manner of doing it : for the practice of physick chiefly consists in being able to discover the true curative indications, and not medicines to answer them ; and those that have overlook'd this point have taught empirics to imitate physicians.

Apologizes for the simplicity of the medicines he recommends.

30. But if it be objected, that in some cases I have not only rejected the pompous part of prescription ; but have likewise recommended such medicines, as on account

(t) See page 345, note (k).

account of their simplicity, have little or no affinity to the *materia medica* : I answer, that I conceive that none but the vulgar will be offended at this procedure ; for the judicious are sensible that all things are valuable that are serviceable. Thus *Hippocrates* in advising the use of bellows in the iliac passion, and nothing for a cancer, and the like, as appears in almost every page of his writings, is esteemed as able a physician, as if he had filled his works with pompous prescriptions.

31. I intended also to treat of *chronic* diseases, at least of those I was best acquainted with, but as this will be a work of labour, and being desirous likewise to know how these sheets are receiv'd, I shall defer the prosecution of it to some other time. (u)

*Intended to
write on
chronic
diseases.*

(u) The author, however, seems to have done this in a summary way in his *processus integri*, here first annex'd to his other works ; a very few *chronic* distempers having escaped his notice, as will appear upon turning over this incomparable piece.

The LIFE of

Dr SYDENHAM.

THOMAS SYDENHAM was born in the year 1624, at *Winford Eagle* in *Dorsetshire*, where his father *William Sydenham Esq;* had a large fortune. Under whose care he was educated, or in what manner he passed his childhood, whether he made any early discoveries of a genius peculiarly adapted to the study of nature, or gave any presages of his future eminence in medicine, no information is to be obtained. We must therefore repress that curiosity which would naturally incline us to watch the first attempts of so vigorous a mind, to pursue it in its childish enquiries, and see it struggling with rustic prejudices, breaking on trifling occasions the shackles of credulity, and giving proofs in its casual excursions, that it was formed to shake off the yoke of prescription, and dispel the phantoms of hypothesis.

That the strength of SYDENHAM's understanding, the accuracy of his discernment, and ardour of his curiosity might have been remarked from his infancy by a diligent observer, there is no reason to doubt. For there is no instance of any man whose history has been minutely related, that did not in every part of life discover the same proportion of intellectual vigour, but it has been the lot of the greatest part of those who have excelled in science, to be known only by their own writings, and to have left behind them no remembrance of their domestic life, or private transactions, or only such memorials of particular passages as are on, certain occasions, necessarily recorded in publick registers.

From these it is discovered, that at the age of eighteen, in 1642, he commenced a commoner of *Magdalen-Hall* in *Oxford*, where it is not probable that he continued long; for he informs us himself, that he was withheld from the university by the commencement of the war; nor is it known in what state of life he engaged, or where he resided during that long series of public

publick commotion. It is indeed reported, that he had a commission in the king's army, but no particular account is given of his military conduct; nor are we told what rank he obtained when he entered into the army, or when, or on what occasion he retired from it.

It is, however, certain, that if ever he took upon him the profession of arms, he spent but few years in the camp; for in 1648 he obtained at *Oxford* the degree of batchelor of phyfic, for which, as some medicinal knowledge is necessary, it may be imagined that he spent some time in qualifying himself.

His application to the study of phyfic was, as he himself relates, produced by an accidental acquaintance, with Dr *Cox*, a physician eminent at that time in *London*, who in some sickness prescribed to his brother, and attending him frequently on that occasion, enquired of him what profession he intended to follow. The young man telling him that he was undetermined, the doctor recommended phyfic to him, on what account, or with what arguments, it is not related; but his persuasions were so effectual, that SYDENHAM determined to follow his advice, and retired to *Oxford* for leisure and opportunity to pursue his studies.

It is evident that this conversation must have happened before his promotion to any degree in phyfic, because he himself fixes it in the interval of his absence from the university, a circumstance which will enable us to confute many false reports relating to Dr SYDENHAM, which have been confidently inculcated, and implicitly believed.

It is the general opinion, that he was made a physician by accident and necessity, and Sir *Richard Blackmore* reports in plain terms, [*preface to his treatise on the small-pox*] that he engaged in practice without any preparatory study, or previous knowledge, of the medicinal sciences; and affirms, that when he was consulted by him what books he should read to qualify him for the same profession, he recommended *Don Quixote*.

That he recommended *Don Quixote* to *Blackmore*, we are not allowed to doubt; but the relater is hindered by that self-love which dazzles all mankind from discovering that he might intend a satire very different from a general censure of all the antient and modern wri-

writers on medicine, since he might perhaps mean either seriously, or in jest, to insinuate, that *Blackmore* was not adapted by nature to the study of physic, and that, whether he should read *Cervantes* or *Hippocrates*, he would be equally unqualified for practice, and equally unsuccessful in it.

Whatsoever was his meaning, nothing is more evident, than that it was a transient fall of an inclination warmed with gaiety, or the negligent effusion of a mind intent on some other employment, and in haste to dismiss a troublesome intruder; for it is certain that SYDENHAM did not think it impossible to write usefully on medicine, because he has himself written upon it; and it is not probable that he carried his vanity so far, as to imagine that no man had ever acquired the same qualifications besides himself. He could not but know that he rather restored than invented most of his principles, and therefore could not but acknowledge the value of those writers whose doctrines he adopted and enforced.

That he engaged in the practice of physic without any acquaintance with the theory, or knowledge of the opinions or precepts of former writers, is undoubtedly false; for he declares, that after he had, in pursuance of his conversation with Dr *Cox*, determined upon the profession of physick, he *applied himself in earnest to it*, and *spent several years in the university*, [aliquot annos in academicâ palæstrâ,] before he began to practise in *London*.

Nor was he satisfied with the opportunities of knowledge which *Oxford* afforded, but travelled to *Montpellier*, as *Default* relates, [*dissertation on consumptions*] in quest of farther information; *Montpellier* being at that time the most celebrated school of physick: So far was SYDENHAM from any contempt of academical institutions, and so far from thinking it reasonable to learn physic by experiments alone, which must necessarily be made at the hazard of life.

What can be demanded beyond this by the most zealous advocate for regular education? What can be expected from the most cautious and most industrious student, than that he should dedicate *several years* to the rudiments of his art, and travel for further instructions from one university to another?

It is likewise a common opinion, that SYDENHAM was thirty years old before he formed his resolution of studying physick, for which I can discover no other foundation than one expression in his dedication to *Dr Mapletoft*, which seems to have given rise to it by a gross misinterpretation ; for he only observes, that from his conversation with *Dr Cox* to the publication of that treatise *thirty years* had intervened.

Whatever may have produced this notion, or how long soever it may have prevailed, it is now proved beyond controversy to be false, since it appears that SYDENHAM having been for some time absent from the university, returned to it in order to pursue his physical enquiries before he was twenty four years old, for in 1648 he was admitted to the degree of bachelor of physick.

That such reports should be confidently spread, even among the cotemporaries of the author to whom they relate, and obtain in a few years such credit as to require a regular confutation ; that it should be imagined that the greatest physician of the age arrived at so high a degree of skill, without any assistance from his predecessors ; and that a man, eminent for integrity, practised medicine by chance, and grew wise only by murder, is not to be considered without astonishment.

But if it be on the other part remembered, how much this opinion favours the laziness of some, and the pride of others ; how readily some men confide in natural sagacity, and how willingly most would spare themselves the labour of accurate reading and tedious enquiry, it will be easily discovered how much the interest of multitudes was engaged in the production and continuance of this opinion, and how cheaply those of whom it was known, that they practised physick before they studied it, might satisfy themselves and others with the example of the illustrious SYDENHAM.

It is therefore in an uncommon degree useful to publish a true account of this memorable man, that pride, temerity, and idleness may be deprived of that patronage which they have enjoyed too long ; that life may be secured from the dangerous experiments of the ignorant and presumptuous ; and that those who shall hereafter assume the important province of superintending the health of others, may learn from this great master

master of the art, that the only means of arriving at eminence and success are labour and study.

From these false reports it is probable that another arose, to which, though it cannot be with equal certainty confuted, it does not appear that entire credit ought to be given. The acquisition of a *Latin* stile did not seem consistent with the manner of life imputed to him; nor was it probable, that he who had so diligently cultivated the ornamental parts of general literature, would have neglected the essential studies of his own profession. Those therefore who were determined at whatever price, to retain him in their own party, and represent him equally ignorant and daring with themselves, denied him the credit of writing his own works in the language in which they were published, and asserted, but without proof, that they were composed by him in *English* and translated into *Latin* by Dr *Mapletoft*.

Whether Dr *Mapletoft* lived and was familiar with him during the whole time in which these several treatises were printed, treatises written on particular occasions, and printed at periods considerably distant from each other, we have had no opportunity of enquiring, and therefore cannot demonstrate the falsehood of this report: but if it be considered how unlikely it is that any man should engage in a work so laborious and so little necessary, only to advance the reputation of another, or that he should have leisure to continue the same office upon all following occasions, if it be remembered how seldom such literary combinations are formed, and how soon they are for the greatest part dissolved, there will appear no reason for not allowing Dr SYDENHAM the laurel of eloquence as well as physic, *

It

* Since the foregoing was written we have seen Mr *Ward's* lives of the professors of *Gresham College*; who in the life of Dr *Mapletoft* says, that in 1676, Dr *Sydenham* published his *Observationes medicæ circa morborum acutorum historiam & curationem*, which he dedicated to Dr *Mapletoft*, who at the desire of the author had translated them into *Latin*; and that the other pieces of that excellent physician were translated into that language by Mr *Gilbert Havers* of *Trinity College Cambridge*, a student in physic and friend of Dr *Mapletoft*. But as Mr *Ward*, like others, neglects to bring any proof of his assertion, the question cannot fairly be decided by his authority.

It is observable, that his *processus integri*, published after his death, discovers alone more skill in the *Latin* language than is commonly ascribed to him; and it surely will not be suspected, that the officiousness of his friends was continued after his death, or that he procured the book to be translated only that by leaving it behind him, he might secure his claim to his other writings.

It is asserted by Sir *Hans Sloane*, that Dr SYDENHAM, with whom he was familiarly acquainted, was particularly versed in the writings of the great *Roman* orator and philosopher; and there is evidently such a luxuriance in his stile, as may discover the author which gave him most pleasure, and most engaged his imitation.

About the same time that he became batchelor of physick, he obtained by the interest of a relation, a fellowship of *All Souls* college, having submitted by the subscription required to the authority of the visitors appointed by the parliament, upon what principles, or how consistently with his former conduct, it is now impossible to discover.

When he thought himself qualified for practice, he fixed his residence in *Westminster*, became doctor of physick at *Cambridge*, received a licence from the college of physicians, and lived in the first degree of reputation, and the greatest affluence of practice, for many years, without any other enemies than those which he raised by the superior merit of his conduct, the brighter lustre of his abilities, or his improvements of his science, and his contempt of pernicious methods supported only by authority, in opposition to sound reason and indubitable experience. These men are indebted to him for concealing their names, when he records their malice, since they have thereby escaped the contempt and detestation of posterity.

It is a melancholy reflection, that they who have obtained the highest reputation, by preserving or restoring the health of others, have often been hurried away before the natural decline of life, or have passed many of their years under the torments of those distempers, which they profess to relieve. In this number was SYDENHAM, whose health began to fail in the fifty second year of his age, by the frequent attacks of

of the gout, to which he was subject for a great part of his life, and which was afterwards accompanied with the stone in the kidneys, and, its natural consequence, bloody urine.

These were distempers which even the art of SYDENHAM could only palliate, without hope of a perfect cure, but which, if he has not been able by his precepts to instruct us to remove, he has, at least, by his example, taught us to bear; for he never betray'd any indecent impatience, or unmanly dejection, under his torments, but supported himself by the reflections of philosophy, and the consolations of religion, and in every interval of ease, applied himself to the assistance of others with his usual assiduity.

After a life thus usefully employed, he died at his house in *Pall-mall*, on the 29th of *December*, in the year 1689, and was buried in the isle, near the south door, of the church of *St James in Westminster*.

What was his character, as a physician, appears from the treatises which he has left, which it is not necessary to epitomise or transcribe; and from them it may likewise be collected, that his skill in physic was not his highest excellence; that his whole character was amiable; that his chief view was the benefit of mankind, and the chief motive of his actions the will of GOD, whom he mentions with reverence, well becoming the most enlightened and most penetrating mind. He was benevolent, candid, and communicative, sincere and religious; qualities, which it were happy if they would copy from him, who emulate his knowledge, and imitate his methods.

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SECT. I. CHAP. I.

Of acute Diseases in general.

1. **A** DISEASE, in my opinion, how prejudicial soever its causes may be to the body, is *Diseases defined.* no more than a vigorous effort of Nature (a) to throw off the morbid matter, and thus recover the patient (b). For as God has been pleased so to create mankind that they should be fitted to receive various impressions from without, they could not, upon this account, but be liable to different disorders, which arise (1) either from such particles of the air, as having *Their causes.* a disagreement with the juices, insinuate themselves into the body, and, mixing with the blood, taint the whole frame; or (2) from different kinds of fermentations and putrefactions of humours detained too long in the body, for want of its being able to digest, and discharge them, on account of their too large bulk, or unsuitable nature.

A

2. These

(a) See the term *Nature* explain'd, *Sect. II. Chap. II. Par. 48.*

(b) In order justly to define a disease in general, it should be first known what health is; a morbid state of the body being correlative to a sound one. — Now if health may be said to consist “in a free and regular circulation, a just mixture and proportion of the blood and juices, the due tone and motion of the solids, and a perfect exercise of the vital and animal functions”, then a disease may be defin'd, “a considerable alteration in the motion, mixture, or quantity of the fluids, a too great tension, or relaxation, and consequently a too accelerated or languid motion of the solids, affecting the whole body, or only some parts thereof, join'd with a remarkable disorder of the secretions, excretions, vital and animal functions, and tending either to recovery, death, or a depravation of some parts of the body, when the disease terminates in another.”

This definition takes in the whole of what is meant by a disease in general; for it not only clearly shews wherein it actually consists, namely, in a depravation of the vital and animal functions, but includes its immediate cause, which is an augmented or diminished motion in the whole body, or some of the parts, and also enumerates the effects it has on the body.

Sect. 1.

Their Sym-
ptoms.

2. These circumstances being so closely interwoven with our constitutions that no man can be entirely free from them, Nature provides such a method, and train of symptoms, as may expel the peccant matter that would otherwise destroy the human fabric. And tho' this end would be more frequently obtained by these disagreeable means, were not her method obstructed thro' unskilfulness; yet, when left to herself, either by endeavouring too much, or not enough, the patient pays the debt of mortality; for it is an immutable law that no generated being can always continue. (c)

Illustration.

3. A little to exemplify this doctrine: What is the *plague* but a complication of symptoms to throw out the morbid particles (taken in with the air we breathe) through the proper emunctories, by way of external abscess, or other eruptions? What is the *gout*, but the contrivance of Nature to purify the blood of aged persons, and, as *Hippocrates* phrases it, to purge the recesses of the body? And the same may be said of many other diseases, when they are perfectly formed. (d)

Acute
diseases,
whence.

4. But Nature performs this office, quicker or slower, according to the different methods made use of to expel the morbid cause. For when a fever is requir'd to loosen the morbid particles from the blood, to promote their separation, and at length discharge them by sweat, a looseness, eruptions, or other similar evacuation; as this effect is produc'd in the mass of blood, with a violent motion of the parts, it follows, that the change, to recovery or death, must be sudden, (according as Nature can conquer the morbid matter by a crisis,

or

(c) *Constat, æterna positumque lege est,**Constat ut genitum nihil.*

BOETIUS.

(d) Nothing is more evident than that the body is a *living machine*, so form'd that many of its disorders correct themselves, and restore the body to its natural state; whilst others perpetuate, and increase themselves, and bring on its destruction. Hence it clearly follows, that 'tis the business of physicians to discover from observation, the several ways leading to these contrary ends, in the several disorders of the body; to promote the first, and oppose the last. Thus, for instance, acrimonious matter in the stomach and bowels occasions a vomiting and looseness; which are sometimes just sufficient to relieve the body, by discharging what is offensive, sometimes fall short of this; and at others are so violent as to end in exhaustion and death. Accordingly the physician ought, in some cases, to give emetics or purgatives, and in others opiates, as experience, with the reasoning resulting from it, shall direct,

or is forc'd to submit) and that these efforts must be joined with violent and dangerous symptoms. And of this kind are all *acute diseases*, which come to their state with rapidity, violence and danger. Now, in this way of speaking, all those diseases may be esteem'd *acute*, which, with respect to their fits taken together, go on slowly, but with respect to a single fit, are soon terminated *critically*, of which kind are all intermit- tent fevers.

5. But where the matter of the disease is such that it cannot raise the assistance of a fever, for its thorough discharge, or is fix'd upon a particular part too weak to expel it, either on account of the peculiar structure of that part, (as in the palsy, where the morbid matter is fix'd in the nerves, and an empyema, where it is discharged into the cavity of the breast) or through a want of natural heat and spirits, (as when phlegm falls upon the lungs weakened by age, or an habitual cough) or lastly, from a continual afflux of new matter, whereby the blood becomes vitiated, and, by its vigorous endeavours to throw it off, overpowers and oppresses the part affected (*e*); in all these cases, the matter is slowly brought to concoction, or not at all; and therefore diseases proceeding from such indigestible matter, are what we properly term *chronic*. And from these two contrary principles, acute and chronic diseases respectively arise.

Chronic diseases, whence.

6. As to acute diseases, of which I now design to treat, some of them proceed from a latent and inexplorable alteration of the air, infecting the bodies of men; and not from any peculiar state or disposition of the blood and juices, any further than an occult influence of the air may communicate this to the body: These continue only during this one secret state, or constitution of the air, and, raging at no other time, are called *epidemic distempers*.

The causes of acute epidemic diseases.

7. There are other acute diseases, arising from some peculiar indisposition of particular persons; but as these do not depend upon a general cause, few are seiz'd with them at once. These also appear in all years, and at any time of the year indifferently, some exceptions admitted, which I shall hereafter mention, in treating of this kind particularly. These I call *intercurrent*,

Intercurrent, or sporadic acute diseases.

A 2

or

(*e*) For instance, in the Gout.

Sect. 1. or *sporadic* acute diseases, because they happen at all times when epidemics rage. I will begin with epidemics, and chiefly propose to give a general history thereof.

C H A P. II.

Of epidemic Diseases.

Epidemic diseases differ surprizingly;

require a different treatment.

1. **I**F one were to examine all the branches of physic, nothing, perhaps, would appear so surprizing as the different, and perfectly dissimilar face of epidemic diseases; which do not so much relate to, and depend upon the various seasons of the same year, as upon the different constitutions of different years.

2. And this manifest diversity of these diseases still farther appears, not only from their proper and peculiar symptoms, but also from the different method of cure they respectively require. Hence it is clear that these distempers, tho' to less accurate observers they may seem to agree in their external face, and certain symptoms in common, are, in reality, of very different and dissimilar natures. Whether a careful examination, such as, perhaps, could not be well made in the life of one man, might shew, that certain tribes of epidemic disorders constantly follow others in one determined series, or circle, as it were; or whether they all return indiscriminately, and without any order, according to the secret disposition of the air, and the inexplicable succession of seasons, I am not certain.

3. This, however, I am convinc'd of from numerous careful observations, that the same method which cures in the middle of the year, may possibly prove destructive at the conclusion of it; and when I had once happily fallen upon a genuine method of treating any species of fevers, suitably to its nature, I always prov'd successful (proper regard being had to the constitution, age, and other particular circumstances of the patient) till that species became extinct, and a new one arose; when I was again doubtful how to proceed, and, notwithstanding the utmost caution, could scarce ever preserve one or two of my first patients from danger, till I had thoroughly investigated the nature of the distemper,

temper, and then I proceeded in a direct, and safer way to the cure.

4. And tho' I have carefully observed the different constitutions of different years, as to the manifest qualities of the air, in order from thence to discover the causes of the so great dissimilitude of epidemic diseases; yet I must own, I have hitherto made no progress; having found that years, perfectly agreeing as to the manifest temperature of the air, have nevertheless produced very different tribes of diseases; and *vice versa*.

5. The matter seems to stand thus: There are various general constitutions of years, that owe their origin neither to heat, cold, dryness, nor moisture; but rather depend upon a certain secret and inexplicable alteration in the bowels of the earth, whence the air becomes impregnated with such kinds of *effluvia*, as subject the human body to particular distempers so long as that kind of constitution prevails, which, after a certain course of years, declines, and gives way to another. Each of these general constitutions is attended with its own proper and peculiar kind of fever, which never appears in any other; and therefore I call this kind of fevers *stationary*.

*Stationary
fevers de-
fined;*

6. There are also certain particular constitutions of the same year, in which, tho' such kinds of fevers as follow the general constitution of the year, with regard to the manifest qualities of the atmosphere, may prove more or less epidemic, and rise either earlier or later; yet the fevers that appear in all years (which we therefore call *intercurrents*) do proceed from some one or other manifest quality of the air; for instance, pleurifies, quinsies, and the like; which generally happen when an intense and long continued-cold is immediately succeeded by a sudden heat. It may therefore be, that the sensible qualities of the air have some share in producing those intercurrent fevers which appear in every constitution of the atmosphere, but they do not cause the epidemics peculiar to the general constitution. And yet, at the same time, it must be acknowledged that the abovemention'd qualities of the air may more or less dispose the body to the particular epidemic disease; and the same may be affirmed of any error in the non-naturals.

*not produc'd
by the ma-
nifest qua-
lities of the
air.*

Sect. I.

Some epidemics regular.

Others irregular.

7. Now it must be observed that some epidemic diseases, in some years, are uniformly and constantly the same, appearing in almost every patient with the same train of symptoms, and going off in the same manner. And from this kind, as the most perfect, the genuine history of epidemic diseases is to be taken.

8. On the contrary, in other years there are other distempers, which, tho' called epidemic, prove very irregular and dissimilar, as having no one fixt form, or constant appearance, but are extremely irregular, both as to the variety and dissimilarity of the symptoms, and the manner in which they proceed and go off. This great variety in epidemics happens from hence, that every constitution produces diseases considerably differing from those of the same kind, that prevailed in other constitutions, at another time; which not only holds true of fevers, but of most other epidemic diseases.

9. Nor is this all; for there is another subtilty of nature still behind, *viz.* that the same disease, in the very same constitution of the year, frequently appears in a various and dissimilar manner, as to the time of its beginning, state and declension; which is an observation of such consequence as to regulate the indications of cure.

Epidemics, either vernal or autumnal.

10. Again, it must be observed, that all epidemics are of two sorts, *viz.* *vernal* and *autumnal*, and tho' they may possibly arise at a distant time of the year, yet they must be referr'd either to spring or autumn, according as they approach thereto respectively. For sometimes the temperature of the air conspires so much with an epidemic disease, as to produce it before its time; and, on the other hand, it sometimes opposes it so much, as to make it appear later, even in persons disposed to receive it. When therefore I shall mention spring or autumn, I do not precisely mean the *vernal* or *autumnal* equinox, but take in a wider compass.

The course of some vernal ones.

11. Some vernal epidemics appear early, as in *January*, and thence gradually increasing, come to their state about the vernal equinox; after which they gradually decrease, and at length disappear about the summer solstice, except, perhaps, in a very few single instances. Of this kind I reckon the measles, and vernal tertians, which, tho' they rise somewhat later, as in *February*, do.

do likewise disappear near the summer solstice. Whilst others, rising in the spring, and daily increasing, come not to their state till about the autumnal equinox, after which they gradually decrease, and vanish at the approach of winter : Of this kind are the plague and the small-pox, in those years when either of them is the principal disease of the year.

12. The *cholera morbus*, which is of the number of autumnal epidemics, rises in *August*, and finishes its course in a month ; tho' there are other diseases which arise at the same time, and run on to the winter ; as autumnal dysenteries, tertians and quartans ; all which, however, notwithstanding the longer or shorter space they sometimes affect a few particulars, generally cease in two months.

The different duration of autumnal epidemics.


13. As to fevers in particular, it must be observed that the greatest part of them, which are of the continued kind, have hitherto no names assign'd them, as they depend upon the influence of a general constitution or state of the air ; but the names whereby they are distinguished are derived from some remarkable alteration made in the blood, or some other apparent symptom ; whence they are called *putrid*, *malignant*, *petechial*, &c. But as almost every constitution, besides the fevers it produces, eminently favours some remarkable epidemic disease ; as the plague, small-pox, dysentery, &c. I should think that these fevers ought to derive their names from the constitution, as this tends more peculiarly to produce some one of these remarkable distempers, at the time they appear, rather than from any alteration of the blood, or particular symptom ; both which may equally accompany fevers of different kinds.

Names of epidemic fevers whence to be taken.

14. Intermittents, indeed, derive their names from the interval of two fits, and by this mark are sufficiently distinguished, provided regard be had to the two divisions of the year wherein they happen, *viz.* spring and autumn. And yet sometimes fevers are of the true nature of intermittents, without any visible sign to discover them by. So when autumnal intermittents enter and appear early, as in *July*, they do not presently assume their genuine form, as vernal intermittents generally do, but so far resemble continued fevers in all respects, as not to be distinguished, without a very

Intermittents, how distinguished.

Autumnal ones sometimes appear as continuals.

Sect. 1.  strict examination. But, at length, when the force of the prevailing constitution is a little weakened, they appear more genuine, and at the close of autumn, quitting their disguise, plainly manifest themselves to be intermittents either of the tertian or quartan kind, as they really were from the first ; but if this be not carefully attended to, physicians will be deceiv'd to the disadvantage of their patients, by taking such kinds of intermittents for true continued fevers.

Some one epidemic usually prevails over the rest,

to the nature of which the rest approach.

Instanc'd in the small-pox, and dysenteries.

15. Again, it must be carefully remarked, that as many of these diseases appear in the same year, some one or other of them rules over the rest, which rage less at the same time ; so that this one increasing, the others decrease, and this diminishing, the others soon re-appear. And thus they prevail by turns, according as each is favoured by the disposition of the year, and the sensible qualities of the air ; and that distemper which rages most violently about the autumnal equinox, gives its name to the constitution of the whole year ; for whatever distemper then prevails over the rest, will easily be found to preside over them during that year ; and to the disposition thereof all the then reigning epidemics accommodate themselves, so far as their nature permits.

16. Thus, for example ; when the small-pox prevails much, the fever of that year, which is less general, plainly partakes of the same inflammatory nature therewith ; so that both distempers begin after the same manner, and are attended with a great similarity of the most peculiar symptoms, as manifestly appears from the great tendency to spontaneous sweats, and the discharge of *Saliva* in both ; and they only differ in the eruption of the pustules, and whatever depends thereon. Again, when dysenteries are the principal raging disease of the year, the fever of the same year bears great resemblance to their nature ; excepting only that in a dysentery the morbid matter is discharg'd by stool, with a few symptoms thereon depending. For they both attack in the same manner, and in both cases *Aphthæ*, and the like symptoms, are equally apt to appear. And indeed the dysentery we speak of, is the very fever itself, with this particularity, that it is turned inwards upon the intestines, and discharges itself that way.

17. But

17. But it must be remark'd, that this principal epidemic which rages about the autumnal equinox, tho' it may then lay all waste before it, is check'd upon the coming in of winter; whilst, on the contrary, the lower class of epidemics, subservient, as it were, to that principal one, now chiefly rage, till the said reigning distemper of the year again prevails, breaks their force, and abolishes their very name.

Prevailing epidemic check'd by the coming in of winter.

18. Lastly, it must be observ'd, that whenever any constitution produces various species of epidemics, all these species differ in kind from those which have the same name, but are produced in another constitution. But how many peculiar species soever arise in one and the same constitution, they all agree in being produced by one common general cause, viz. some peculiar state of the air; and consequently how much soever they may differ from one another in appearance, and specific nature, yet the constitution common to them all works upon the subject-matter of each, and moulds it to such a state and condition that the principal symptoms (provided they have no regard to the particular manner of evacuation) are alike in all; all of them agreeing in this circumstance, that they respectively grow mild or violent at the same time. 'Tis further to be noted, that in whatever years these several species prevail at one and the same time, the symptoms wherewith they come on are alike in all.

All epidemics of one constitution produced by one common general cause.

19. Hence we may see how very various and subtle a method nature uses in producing diseases, which no one, I conceive, has hitherto traced in proportion to the dignity of the subject. And it appears, from this short account, that as the specific differences of epidemic distempers, especially fevers, depend upon the secret constitution of the air (a), that those persons labour

The causes of fevers whence to be deriv'd.

(a) It should seem possible, by a set of well-adapted experiments, accurately made, to discover what are usually called the occult qualities of the air, so frequently mentioned by our author, and render them manifest to the senses. And if, by this means, we could come at a tolerable knowledge of the effluvia, salts, and other heterogeneous matters, wherewith the air at different times, and in different countries is replete, it might give us almost a compleat knowledge of the nature of all epidemic diseases that may arise for the future, provided due attention be given at the same time to the age, sex, constitution, manner of living,

&c.

Se&t. 1. hour unprofitably, who deduce the causes of different fevers from the morbid matter gradually collected in the body ; for it is evident, that if any man in perfect health should remove to any part of our own country where an epidemic disease rages, he might in a few days be seiz'd with it, tho' it is scarce credible that any manifest alteration should be made by the air in the juices of the same person, in so short a time (*b*).

*Difficult to
lay down a
general me-
thod of cure.*

20. Nor is it less difficult to lay down general rules for the cure of these fevers, or to fix certain limits for practice. Under so much darkness and ignorance, therefore, my chief care, as soon as any new fever arises, is to wait a little, and proceed very slowly, especially in the use of powerful remedies ; in the mean time carefully observing its nature and procedure, and by what means the patient was either reliev'd or injur'd ; so as soon to embrace the one, and reject the other (*c*).

21. In

&c. of the patient ; all which circumstances being carefully considered, and compared together, might probably direct to rational, fix'd, and effectual methods of cure.

The prosecution of this subject by experiment, and not by way of conjecture, or hypothesis, is surely worthy the notice of all such as have leisure and abilities for the undertaking ; since very considerable advantages will accrue to mankind, when once a history of this sort shall be in some measure compleated. The excellent Mr Boyle has made great advances herein, and laid down the methods that should be followed, in order to succeed in the attempt. — See Dr Shaw's *Abridgment of his Works*, in 3 Vols, 4to. Arbuthnot on air ; Dr Hale's *Statical Experiments*, and Huxham *de aere et morb. epid.*

(*b*) There is a possibility that persons, seemingly in perfect health, may have the principles, or *semen*, of some disease, actually existing, but lying dormant in the juices ; in which case the disease cannot be said to be produced, or caused, but only stirred into action by the secret constitution of the air. Is not this verified in many instances of persons seized with the small pox, *&c.* ? If so, the morbid matter collected in the body, how little soever it be in quantity, may sometimes principally contribute to the production of some particular disease thereon depending, contrary to what our author seems to allow. But whether it proceeds from any heterogeneous matter, or from the blood's attempting a new change, our author judges the indications in either case to be the same ; whence this should seem a matter of so little consequence, as not to deserve a serious dispute.

(*c*) Might not a due regard to the preceding and the then reigning manifest temperature of the air, the manner of living, constitution, age and sex of the patient, together with a strict attention to the first symptoms of any epidemic fever, enable the physician to proceed with greater certainty in the method of cure, than our author seems to judge possible ?

21. In short, to reduce all the species of epidemics into classes, according to the variety of their appearances, to explain their peculiar signs, and point out the proper method of cure for each, is a very difficult task, and requires much time; and as they arise in no stated order of years, (at least this is not yet discover'd) to procure a just collection of observations about them, would perhaps require more than the life of any one physician; yet this task, how difficult soever, must be perform'd, before it can be justly said we have done any thing considerable towards discovering the intricacy of these disorders.

Epidemics not easily class'd and explain'd.

22. But how shall we give an account of the distinct species of epidemics, which not only, so far as appears, arise fortuitously, but also continue of the same kind for a single year, or some certain series of years; but in another year differ from each other specifically? The best method I can pitch upon is that which describes them thro' a competent number of years, in the same order in which they happened; and to do this at present, according to my ability, I will here deliver the history and cures of those epidemics which rag'd from the year 1661, to 1676, viz. the space of 15 years; and this, according to the most accurate observations I have been able to make. For it seems to me impossible to do any thing to this purpose, by endeavouring to assign their causes, as deriv'd from the manifest qualities of the air; or from any particular indisposition in the blood and juices, unless so far as this may depend upon a secret influence of the air. And it would be still more impossible to set down the species of various epidemics, as arising from some specific alteration of the air, however easy this might seem to those who can affix the names of fevers to ill-form'd notions, from the speculation of such alterations as may happen in the blood, or juices, by any particular degeneration of principles. By this means, indeed, whilst we do not follow nature, which is always the best guide, but indulge ourselves the liberty of conjecture, we might make as many species of diseases as we please; tho' at the same time we take such a liberty as no one would easily grant to a botanist, who, in writing the history of plants, is oblig'd to abide by the testimony of the senses, and not indulge his talent

Best distinguished by describing them.

at

Sect. 1. at conjecture, however excellent he might be therein.
 23. I presume not here to deliver any thing perfect, not even in enumerating the whole class of epidemics; much less will I answer for it, that the diseases I mention, as following one another, in the order I set them down, shall keep the same order hereafter. The thing I endeavour is to shew, by the assistance of a few years observations, how this matter stood lately with respect to my own country, and the city wherein I live; in order to assist in beginning a work that, in my judgment, will greatly tend to the advantage of mankind, when, at length, it shall be finish'd by posterity, and the whole series of epidemics be exhibited to view, as they shall succeed each other for the future (d).

C H A P.

(d) There are many particulars in this second chapter, which seem rather suited to favour an hypothesis, than taken from fact. That many acute distempers are epidemic is certain, and it is also certain that many epidemics of the same name are of different natures. But that epidemics are not considerably influenc'd by the sensible qualities of the air, has never yet been prov'd for want of sufficient observation. On the contrary, so far as observation hitherto reaches, it strongly favours the opposite opinion. Whoever considers the remarkable alterations the air frequently suffers in point of gravity, elasticity, heat, cold, dryness and moisture, together with the infinite diversity of its contents, which are likewise perpetually varying, will, doubtless, conclude that the several epidemics, arising at the same time, must needs be rendered more or less violent and dangerous, according as the prevailing constitution of the air is more or less disposed to conspire therewith. And this, indeed, seems fully confirmed by modern observation. But whatever be the cause of the epidemic, it should seem that the treatment thereof were best deduced from its symptoms, compared with the age, constitution, &c. of the patient; and not, as the author seems to intimate, that the same distemper, to all appearance, shall require different methods in different constitutions of the air. For, if it be different in its appearance, no wonder it should require a different treatment. See Wintringham's *commentarium nosologicum*, Huxham's *observations de aere et morbis epidemicis*, and the edition of our author's works printed at Geneva in 4to. 1716. to which is added a number of treatises on various epidemic distempers, and constitutions of the air, by different authors.

C H A P. III.

*The epidemic Constitution of the Years 1661,
1662, 1663, 1664, at London.*

1. **T**HE autumnal intermittent fevers which had *The tertian of this constitution described;* reign'd for several years backwards, appeared with new force in the year 1661, especially a bad kind of tertian, about the beginning of *July*, which continually increas'd, so as to prove extremely violent in *August*, seizing almost whole families in many places with great devastation; after which it gradually decreased upon the coming on of the winter, so as to appear seldom in the month of *October*. The symptoms that attended these tertians differed from those of the intermitting tertians of other years, chiefly in the following particulars: (1) the fit was more severe; (2) the tongue more black and dry; (3) the intermission between the fits more obscure; (4) the loss of strength and appetite greater; (5) a greater tendency to a double fit; (6) all the concomitants in short more violent; (7) and the disease itself more mortal than intermitting fevers usually are; (8) when it happened in persons aged, or of a bad habit of body, where, besides, either bleeding or any other evacuations had diminished the strength, it would continue for two or three months.

2. A few quartans accompanied these tertians, but *followed by a continual fever,* both of them went off upon the first coming on of winter, (for they seized upon none that were unaffected by them before) and were followed by a continued fever, differing from the nature of autumnal intermittents only in this; that *they* happened at stated times, but *this* without intermission; for they both seized almost in the same manner, and those that were violently attack'd with either had a vomiting, dryness of the external parts, thirst, and blackness of the tongue: sweats also, towards the end of the distemper, readily discharged the morbid matter in both cases.

3. And it may even from hence appear that this fever *resembling the foregoing intermittents.* belonged to the class of autumnal intermittents, because it very rarely shewed itself in the spring. This con-

Sect. I. continued fever, therefore, appear'd to me a kind of compendium of the intermittent; as, on the other hand, each single fit of the intermittent was a kind of compendium of the continued fever. The difference between them consisted chiefly in this, that the continued fever finished its period of effervescence all at once, in the same constant course: but the intermittent, by fits, at different times.

Only one species of a continued fever from 1661 to 65.

The order of the epidemics of this constitution.

4. How long this continued fever had prevailed, I am not able to say, having been hitherto sufficiently employed in observing the general symptoms of fevers, and not yet finding that fevers might be distinguished, with regard to the various constitutions of different years, or the different seasons of the same year. This, however, I can say, that there was only one species of continued fevers to the year 1665, and that the autumnal intermittents, which were frequent to that year, appeared afterwards very rarely.

5. The above-mention'd tertian fever, which spread very wide in 1661, as was said above, contracted itself in the succeeding year; for in the following autumns, quartans prevailed over the other epidemics, during this constitution of the air. As the quartans always grew milder after the autumn, the continued fever, which appeared more rarely during all this time, now raged more violently till the spring, when vernal intermittents succeeded, which also going off at the beginning of *May*, the small-pox appeared a little, but disappeared again upon the coming in of the autumnal epidemics; *viz.* the continued fever and quartans, which then reigned. In this order did the epidemic diseases appear and succeed each other, during this whole constitution of the air; of which I am now to treat in particular, especially of the continued fever, and intermittents, whether vernal or autumnal, these being the chief distempers of this constitution.

This continued fever, of a capital kind;

6. I begin with this continued fever, which appears to me of a more capital kind than any of the rest; because nature here brought the febrile matter to a due concoction, and expelled it when concocted, in a limited time, more uniformly and regularly, than in any other fever. Moreover as those constitutions of the year which favour autumnal intermittents return more frequently, taking one year with another, than such as produce

produce other epidemics, it follows that the continued fever attending intermittents occurs oftener than any other continued fever.

Chap. 4.

Occurs oftener than the rest.

7. Besides the symptoms which accompanied other fevers, the present fever had these in particular; viz. (1) a great faintness, (2) vomiting, (3) a dry and black tongue, (4) great and sudden loss of strength, (5) a dryness of the external parts, (6) the urine constantly either turbid or thin, both of them here equally signs of crudity, (7) a looseness in the decline, unless the physician happened to stop it at first, whereby the disease was prolonged, and rendered more obstinate; (8) but in its own natural course it scarce lasted above fourteen, or one and twenty days (*a*), when it went off, with a sweat, or rather a gentle moisture; (9) nor did any proper signs of concoction appear before in the urine; but at this time there generally did.

Its symptoms.

8. Other symptoms also arose when this distemper was unskilfully treated; however, as not only these, but the nature of the distemper itself will more clearly appear, from the particular method which I formerly adapted to this fever, I shall here set it down, as it was then published; at least as far as it regards the present purpose: tho' at that time I was not aware of there being any other species of fever in nature.

C H A P. IV.

The continued Fever of the Years 1661, 1662, 1663, 1664.


MY first observation is, that the irregular commotion raised by nature in the blood, either as a cause or concomitant of this fever, is excited in order to separate from it a certain heterogeneous matter contained therein, and prejudicial thereto; or else to change the blood itself into a new state.

Final cause of the commotion of the blood in this fever.

2. And here I rather chuse to make use of the general word *commotion*, than *fermentation* or *ebullition*; in order

The term commotion preferred

(*a*) Does it appear from experience that any fever, which is not brought to a crisis in 14 days, is disposed to run on to 21? Or is not this notion with some others of the like kind taken from the ancients, and first by them, from some fancied harmony between numbers and the continuance of fevers?

Sect. I.  order to prevent all fruitless disputes about words, that might arise from the use of those, which, tho' they may seem harsh and metaphorical to some, are capable of a commodious interpretation. For tho' the commotion of the blood in fevers does at different times resemble the fermentations and ebullitions of vegetable liquors; yet there are those who think this commotion very different from both in more respects than one. For example, say they, fermenting liquors acquire a vinous nature, so as to afford an inflammable spirit by distillation, and to be easily turned into vinegar, which yields an acid spirit by the same treatment; yet neither of these changes have been hitherto observed of the blood. Again, fermentation and depuration are both carried on at one and the same time in vinous liquors; whereas the depuration of the blood in fevers does not accompany, but follow the analogous operation; as appears even to the eye, by the solution of a fever-fit by sweat.

to fermentation or ebullition.

Ebullition esteem'd the improperest term.

3. As to ebullition, this analogy, they say, is still more harsh, and, in many cases, contrary to experience, where the commotion of the blood is too gentle to deserve the title of ebullition. But not to engage in these controversies; since the terms *fermentation* and *ebullition* have prevailed among the modern physicians, I likewise have not scrupled to use them occasionally, meaning only to convey my thoughts more easily thereby. Moreover, that this febrile commotion of the blood is raised by nature, in order to separate an heterogeneous and noxious matter, appears from eruptive fevers, in which an excrementitious matter of a vitiated quality, that lay concealed in the blood, is, by means of the ebullition, thrown out upon the skin^(a).

4. Nor is it less clear to me that a febrile commotion of the blood often tends only to introduce a new state of that fluid, and that a man whose blood is pure and untainted may be seized with a fever; for fevers frequently appear in healthy bodies, where there was before

(a) In eruptive fevers the disorders of the pulse go off entirely, or abate very much upon a free eruption; and in the small-pox the matter deposited in the pustules becomes infectious after a time. It seems therefore to have been morbid matter originally, which, while it circulated with the blood, occasioned a great commotion in it, agreeably to our author's notion.



fore no previous indisposition, either from a plethora, cachexy, or tainted air, that could give rise thereto. Yet even in these cases, upon some remarkable preceding change of the air, diet, and others of the non-naturals a fever presently arises, upon account of the blood's affecting a new state, or disposition, such as this air and diet require, and not because the irritation of vitiated particles, latent in the blood, brings on the fever (b). Tho' I make no question but the matter regularly discharged in the despumation of the blood, after the febrile commotion, may prove vitiated, tho' the blood before was healthy: Which is not more strange perhaps than that some parts of our food should become corrupt and fetid, after having undergone a remarkable alteration in the body, and suffered a separation from the rest (c).

5. With regard to this disease, I judge that the genuine indications are, to keep the commotion of the blood within such bounds as suit the design of nature; so as to prevent its rising too high on the one side, whence dangerous symptoms might follow, or sinking too low on the other, whereby either the exclusion of the morbid matter might be hindered, or the endeavour of the blood affecting a new state be frustrated. And hence, whether the fever be owing to the irritation of any heterogeneous matter, or to the blood's attempting a new change, the indication of the distemper will, in either case, be the same: And upon this foundation I

The commotion of the blood to be duly regulated.

B

proceed

(b) This does no ways appear; why may not the diet, air, &c. have already changed the blood before the fever begins? There is in all this too much speculation concerning causes, with which, and especially final ones, practice has little to do. The same advancement of theory which opens causes to us will probably discover the uses to be made of them; but we are yet far short of this. The best encomium that can be given to our author's theory is, that it should seem to have been formed after he had determined his practice, and entirely made to bend to this. So it is in effect no more than a plausible way of talking, and of gratifying the restless craving of the fancy after sensible images representing the manner and progress of the effects. Many persons ask more than is reasonable from physicians in accounting for things, but then they are often content with less than they ought. A lively metaphor, or a strong contrast of words, are often satisfactory.

(c) All this requires to be verified by experience, laying aside metaphor and analogy.

Sect. I. proceed to the cure in the following manner (*d*).

Bleeding
where pre-
judicial;

6. When the blood is weak (*e*), as it generally is in children, or wants its due proportion of spirits (*f*), as in declining age (*g*), or even in young persons worn out by a lingering illness, I refrain from bleeding: Otherwise the blood, being already too weak even without taking any of it away, might prove absolutely unequal to the business of despumation; whence the whole mass becoming corrupted, death might easily ensue. Thus a hasty check can scarce be put to the fermentation of wine, without injuring the liquor: For nature cannot bear the corrupt particles she has once begun to throw off, which tho' they were pure, whilst equally mix'd with the blood, now strongly tend to taint the rest of the juices. I am well aware, however, that where bleeding has been imprudently us'd, the patient may be sometimes saved by means of proper cordials, and the blood reduced to a proper temper for performing the necessary despumation: But prevention is better than cure.

where ser-
viceable.

7. When the blood happens to be of a contrary disposition,

(*d*) The practice is, as we here see, to be regulated by the degree of the commotion, and the proper degree of this, as we shall see presently, by the symptoms. But why then could not the practice be regulated by the symptoms, without starting an hypothesis, so difficult both to be defined and proved? This should be a caution to every man to stand on his guard; since so excellent a practitioner, and so professed an enemy to theory, could not forbear entangling his practice with an hypothesis, which is rather a figurative description, than an explicit detail of the steps which he supposes nature to take, and for which he has produc'd no solid authority from facts.

(*e*) How does the weakness of the blood discover itself to the senses? By the too small proportion of *Craſſamentum*? Whatever it be, it ought to have been mentioned particularly, and the reason taken from thence, if it afforded any: If not, still there lies an appeal to experience.

(*f*) This again, I presume, can never be made out to the senses.

(*g*) Old persons seem to bear bleeding better than either of the others. However the practical doctrine here delivered is very good: Only it would have been much easier, and more satisfactory to have founded it upon experience, or at least upon obvious reasons immediately resulting from thence. Thus in children, and persons exhausted by a preceding disease, the quantity of red blood is less in proportion to the quantity of the other fluids, than in robust and grown persons; neither do their relaxed vessels compress the fluids so strongly, and turn them into red blood so fast. They cannot, therefore, support the loss of red blood so well.

position, as it usually is in young persons of a strong and sanguine habit, I esteem bleeding the first step to the cure, and not to be omitted without danger, except in the cases hereafter mentioned. For without it not only deliriums, phrensies, and the like disorders from inflammation might arise from too great an effervescence of the blood, but also the circulation might be obstructed, or the whole mass, in a manner, stagnate from its excess in quantity (*b*).

8. As to the proportion, I usually take away no more than I conceive may prevent those inconveniencies, which, as we said above, might proceed from an immoderate commotion of the blood (*i*): Afterwards regulating the degree of heat, by repeating or omitting bleeding occasionally, together with the free or sparing use of warming cordials, and lastly by the use of laxatives or astringents, as I observe the commotion to prevail or languish.

In what proportion to be used.

9. After bleeding, where it was necessary, I carefully enquire whether the patient has had any vomiting or retching at the beginning of the fever; and if he has, I order an emetic, unless the tender age, or some remarkable weakness, of the patient should contra-indicate. Where a retching has preceded, a vomit is so necessary, that unless the humour be expelled, it produces several other different symptoms, not easy to be removed in the course of the cure, and highly dangerous to the patient. The principal and most common of these is a looseness, which generally happens in the decline of the fever, if emetics were omitted when they were indicated; for in the progress of the distemper, when nature has in some degree subdued the malignant humour in the stomach, and thrown it lower, it, by its sharpness, and the constant supply derived from above, so corrodes the intestines, that a looseness must

A vomit, where necessary, and where not.

A looseness happens, if not given when required.

B 2

necessarily

(*b*) Surely a description of the distemper to be here treated by a regular detail of the symptoms ought somewhere to have been premised. It is true indeed that a strong constitution can hardly have any fever, where bleeding is not required; but an enumeration of the foregoing and present symptoms would have illustrated and confirmed this in an eminent degree, as we see by the few consequent ones that are nam'd.

(*i*) Here it should have been particularly specified what degree thereof is to be esteemed immoderate.

Se^{ct}. I. necessarily follow (*k*). I have however observed in such inflammatory fevers, as are commonly called malignant, that tho' a vomit has been omitted, when retchings at first appeared, yet a diarrhœa does not necessarily follow, as it did in the present: But more of this hereafter (*l*).

But not always in malignant fevers.

Danger of the looseness.

10. Now the danger of this diarrhœa lies here, that it farther debilitates the patient, already sufficiently weakened by the disease, and, what is still worse, happens in the decline of the fever, when the blood ought to collect itself, and exert its force to finish the business of despumation, but is hindered by this evacuation.

Generally check'd by a vomit.

11. What makes it still plainer, that this humour lodged in the stomach, if not discharged by a vomit, may bring on a looseness afterwards, is, that, upon examination, we scarce find any instance of a looseness attending this fever, but where the patient was apt to vomit at the beginning, and an emetic was not given (*m*): as, on the other hand, tho' this inclination to vomit be over, yet the looseness generally stops upon giving a vomit, provided the patient be strong enough to bear it: and I have frequently observed, that upon the coming on of a looseness in this case, astringents, either internally or externally given, have very little, if any force in stopping it (*n*).

Astringents ineffectual.

12. The emetic I generally us'd was of this kind.

A vomiting draught.

Take of the infusion of Crocus metallorum, otherwise called vinum benedictum, six drams, oxymel of squills, and compound syrup of scabious, each half an ounce: mix them for a vomit.

Antimonial vomits require plentiful dilution.

I directed it to be given in the afternoon, two hours after a light dinner; and to make it work the safer and better, ordered three quarts or a gallon of posset-drink to be in readiness, because this kind of emetic is dangerous unless plentifully diluted; and therefore as often as the patient vomited, or purged, he was directly to take a draught of the posset-drink, by which means griping

(*k*) This is certainly a sufficient reason for a vomit, but as strong a one, at least, for a gentle purge.

(*l*) See below, *Par.* 11, 50, 51.

(*m*) This is an instance of the practical reasoning.

(*n*) These positions are abundantly confirmed by experience.

gripping was prevented, and the vomiting rendered more easy (o).

Chap. 4.



Vomiting
of admira-
ble service.

13. When I have sometimes happened carefully to examine the matter here thrown up by vomit, and found it neither considerable in bulk, nor of any remarkable bad quality, I have been surprized how it should happen that the patient has been so much relieved thereby: for as soon as the operation was over, the severe symptoms, *viz.* the *nausea*, anxiety, restlessness, deep sighing, blackness of the tongue, &c. usually abated, and went off, so as to leave the remainder of the disease tolerable (p).

14. We should not omit, that if the state of the patient requires both bleeding and vomiting, it is safest to bleed first, and give the vomit afterwards; otherwise there would be danger that, whilst the blood-vessels are greatly distended, the violent motion in vomiting might burst the vessels of the lungs, or hurt the brain, and occasion a vomiting of blood, or a mortal apoplexy: of which I could give some instances, if it were proper, but my design is only to caution (q).

Bleeding to
be first us'd,
if also re-
quir'd.

15. As to the time of giving a vomit, I would have it done at the beginning of the fever, if possible, in order to prevent those terrible symptoms arising from a

A vomit.
when to be
given.

B 3

collection

(o) There ought to be no delay in giving a vomit, for a quart of water-gruel, posset-drink, &c. will at any time render its operation more gentle than a light dinner, by being drank a little before.

(p) The difficulty our author lies under here, in accounting for the relief obtained by a vomit, seems to proceed, either from his having not known, or not sufficiently considered the good effects vomits produce beyond the *primæ viæ*, by the considerable shock they give to all the parts. As to the discharge being small, that almost always happens, in case a surfeit has not preceded from overloading the stomach with solid or fluid aliment, or both: for acute diseases are perhaps not so much owing to an excess in the quantity of the juices, as to some ill quality they may have contracted, from a surprisngly minute portion of morbid matter of a certain kind, as is manifest in several epidemic diseases. And indeed our author assures us, and daily experience confirms it, that persons, apparently in good health, may be seized with distempers, according as the latent or sensible qualities of the air are dispos'd to taint their juices, and these, on the other side, are fitted to receive the infection. See Sect. I. Chap. II. Par. 19, and Chap. III. Par. 4.

(q) This is an extremely useful caution, and appears to have been derived from observation, whence all our reasonings in physic, to make them truly advantageous, should be drawn.

Sect. 1. collection of humours in the stomach, and parts adjacent; and thus, perhaps, the distemper may be crush'd in its infancy, which might otherwise increase, and prove both obstinate and dangerous, whilst supplied by these humours, which, entering into the recesses of the body, may mix with the mass of blood, or, growing more corrupt by longer continuance, communicate a malignant quality thereto. We have an instance of this in the *cholera morbus*, where, if we unseasonably endeavour to stop the vomiting, whether by *laudanum*, or astringents, and the attempt succeeds, we sometimes bring on a no less dangerous train of symptoms. For the acrimonious and corrupt humours, which ought in some measure to be discharged, being by this means detained, exert their force upon the blood, and raise a fever, which usually proves of a bad kind, and is accompanied with dangerous symptoms, so as scarcely to be removed without giving a vomit, even tho' the patient has then no tendency to such an evacuation.

Vomiting
not to be
stopped un-
seasonably
in the cho-
lera mor-
bus.

16. But if, as it frequently happens, the physician is called so late, that a vomit cannot be given at the beginning of the fever, yet I should judge it proper to give one at any time of the distemper, provided the patient is not too weak to bear it (r). I have successfully ordered an emetic on the twelfth day of the distemper, even tho' the spontaneous retchings were over; and by this means have stopp'd the looseness that hindered the blood from finishing its depuration, and I should not scruple attempting the same later, if the strength of the patient permitted (s).

An opiate
to be given
in the eve-
ning.

17. In the evening, after the operation, I always endeavour to quiet the disturbance raised in the juices by the emetic, and to procure sleep; and therefore direct a paregoric draught to be taken at bed-time after the following manner:

A quieting
draught.

Take of the distill'd water of red poppies, two ounces, Aqua mirabilis, two drams, syrup of white and red poppies, each half an ounce: mix the whole for a draught (t).

18. But

(r) And where a particular symptom requir'd, as appears by what follows. (s) See below, *Par. 51*.

(t) The opiate here ordered is indeed gentle, but the reasons here given are not very satisfactory, and practice determines opiates to be in general pernicious in fevers. Most persons sleep in fevers after the proper evacuations of bleeding, vomiting and purging, or blistering; and without these helps, opiates often fail.

18. But if there be no danger of raising too great an effervescence in future, either on account (1) of plentiful bleeding, used in the course of the cure, (2) frequent vomiting or purging upon the use of an emetic, (3) the present disappearance of the fever, (4) its mildness, or (5) its natural decline; then instead of the draught above set down, I give, without apprehension, a sufficiently large dose of diascordium, either alone, or mixed with some cordial water: and this is an excellent medicine, provided it be given in suitable quantity (*tt*).

Chap. 4.

Or a large dose of diascordium.

19. Under the article of vomits, we should not omit to observe that it is by no means safe, at least in this fever, to give such as are made with the infusion of *crocus metallorum*, even in the smallest quantity, to children under the age of 14. It were indeed to be wish'd that, instead of this emetic, we had others of a safer kind, yet so sufficiently efficacious, as thoroughly to discharge the humour, which in the decline of this fever generally brings on a looseness; or at least were possessed of some proper remedy for changing (*u*) or dissolving this corrosive matter, and blunting its force, so as to hinder it from producing a diarrhoea. It has often been a difficulty with me, when called to infants and children in a fever, and observing an emetic indicated, whereby they might have been preserved from danger, that I durst not give this infusion for fear of a bad consequence (*w*): but in grown persons I have hitherto found no ill effect from it, provided it were given with the cautions abovementioned (*x*).

Vinum benedictum unsafe in children under 14.

B 4

20. When

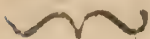
(*tt*) It may be questioned whether the cases here described be not those in which the fever is overcome, and by consequence where good nursing is sufficient, especially with the addition of almost any cordial. If so, diascordium is the worse in this case for the opium it contains, wherein, however, its efficacy should chiefly seem to consist; for opium is apt to pall the stomach, and sink the spirits. And most persons fall into a sound sleep naturally when the fever is gone, and this is much more refreshing than that procured by opiates. A grateful wine seems here a better opiate than any thing, if used moderately.

(*u*) Testaceous powders seem to answer this purpose very well.

(*w*) Surely the author knew the safe emetic virtue of oxymel of squills, which he has prescribed in this very vomit; tho' he was unacquainted with the ipecacuanha, and the safe ways of giving tartar emetic to children.

(*x*) See above, *Par. 12*.

Sect. I.



20. When the affair of vomiting is over, I next consider,

(1) Whether, notwithstanding the preceding evacuations, the blood may not still hurry on so fast, as to require a check; or

(2) On the other hand, whether it may not languish so much as to require quickening, or lastly

(3) Whether the fermentation is now brought to such a proper state, or degree, as that it may be safely left to itself.

Something must be said to each of these cases (y).

21. (1) If the blood hurries on so fast, as to give a just suspicion of a delirium, or other bad symptom coming on, the day after the emetic I generally prescribe a glyster.

*A glyster to
be given oc-
casionally.*

Take of the common decoction for glysters, one pint, syrup of violets, and brown sugar, each two ounces: mix them for a glyster.

This glyster I order to be repeated occasionally, by which means the blood is often so refreshed and cooled, as sufficiently to check its effervescence. It sometimes likewise becomes necessary to repeat bleeding once or twice; as particularly in persons of a very sanguine constitution, and in the prime of life, or such as have inflamed their blood by using wine too freely: tho' there is seldom occasion for so capital a remedy as repeated bleeding, and therefore glysters may suffice to check the effervescence except in the case just now mentioned. If therefore the effervescence of the blood be too high, I order a glyster to be injected, either every day, or every other day, as the case requires, and this I continue to do till about the 10th day of the distemper (z). 22. But

(y) Each of these must be determined by the symptoms; why then should not one have immediate recourse to the symptoms? The author has said above, that he uses the words *fermentation* and *effervescence*, rather as words commonly used, than as having any precise meaning in fevers.

(z) This practice of giving glysters is certainly very good; but a purge, stronger, or weaker, according to the violence of the symptoms, their particular nature, and the strength of the patient, is, in general, greatly to be prefer'd. For the heat of a fever renders the contents of the intestines very fetid and acrimonious, the secretions of the liver, *pancreas*, &c. are often disturbed both in quantity and quality, and the digestion very imperfect; for all which reasons the present contents of the intestines at least ought to be removed. And tho' bleeding cools and relieves more immediately than purging, yet purging does it in a very lasting manner, and disposes to quiet natural sleep.

22. But when a large quantity of blood has been taken away, or the patient is in years, I at this time order no glyster, tho' the effervescence of the blood should be considerable: for, in these cases, as we need not fear its rising so high, without the use of glysters, as to bring on any great and dangerous symptoms (a); so, on the other side, it is certain that the strength and texture of the blood may be so impaired and relaxed by the use of them, as thus to disturb and hinder the procedure of nature, especially if the patient be in years; for glysters do not succeed so well in the old as the young. But if only little blood has been taken away, then, as was said before, I continue the use of glysters to about the 10th, and sometimes to the 12th day (b); as particularly when I durst not bleed at all. For some persons are seized with a continued fever, after an autumnal intermittent, whether tertian or quartan, from a want of purging at the close of the preceding distemper; and if blood should be taken away in this case, there is danger of the sediment, deposited in the former fermentation, being re-absorbed into the mass of blood, and occasioning fresh disorders. Instead of bleeding therefore in such cases, I continue to use glysters to the 12th day, if the patient be young, and the fermentation too violent (c).

Chap. 4.
Cautions relating to glysters.

23. (2) On the other hand, whether bleeding has been used, or not, if the effervescence of the blood sinks too low, and requires raising in order to assist nature in her work; in this case I judge that no glyster should be injected even before the 10th day, and much less afterwards. Otherwise we might thus farther check the fermentation, now already too languid of itself. But to use glysters after this time, viz. in the decline of the distemper, would be as absurd, as to stop the fermentation of wine, before the despumation

was

(a) This is contradicted by practice, and here his theory seems to have misled him. There are many bad febrile symptoms with a weak pulse.

(b) Surely the procedure here ought to be regulated by the state of the symptoms, not the days, and the symptoms particularized.

(c) Here again the symptoms should be named. General directions are of little use, as they may be made to suit very different sorts of practice. And besides both the reason and criterion are taken from a theory, which is either false, or unintelligible.

Sect. 1. was performed, by opening a large vent-hole: for a glyster here would hinder nature in her vigorous endeavour to throw off the morbid matter (*d*).

24. But when once the patient is out of danger from those symptoms arising from too great an ebullition, either by means of proper and seasonable evacuations, or that the disease begins to decline, the more costly he is kept, the more secure I judge him, the febrile matter then proceeding more kindly and gently to concoction. And, therefore, if the preceding evacuations should either actually dissolve, or tend to dissolve, the mass of blood, or the fever go off before its due time, or should have arrived at its full period, I not only refrain from the use of glysters, but also call in the assistance of cordials, and directly endeavour to prevent a purging (*e*).

*Cordials
when to be
given.*

25. Cordials, as I have experienced, when given too soon, do mischief, and, unless bleeding has preceded, may derive the crude matter of the distemper upon the membranes of the brain, the *pleura*, &c. and therefore I never give them when either no blood, or very little, has been taken away; or when no other considerable evacuation has been made; or the patient has not passed the meridian of life. For whilst the blood remains rich enough of itself, it should not be more enriched to the endangering the patient; nor does it require to be raised, so long as no remarkable evacuations have diminished its natural heat. Such kind of patients have cordials within them, which render external ones either needless or prejudicial, and therefore I here either use none at all, or those of the weakest sort (*f*).

26. But if the patient should be greatly weakened and dispirited by copious evacuations, or be in the decline of life, I usually allow of cordials, even in the beginning of the fever; and on the 12th day, when the business of separation is at hand, I judge a freer use of the

(*d*) The true practice here is to give glysters, if wanted, and join the assistance of cordials and blisters: theory has a great share also in this direction.

(*e*) It is very true that in cases of extreme weakness a single stool is dangerous: And in less degrees of weakness purging is improper, unless there be reason to judge that the intestinal contents are preternaturally irritating and acrimonious; *i. e.* unless this appears by the symptoms, from whence alone all indications ought to be taken. (*f*) This direction is very just.

the hotter remedies allowable; and they might be given earlier, if there be no danger of the febrile matter's falling upon the principal parts. For at this time, the more the blood is heated, the more the business of *concoction* is promoted (*ff*). Chap. 4.

27. I cannot imagine what physicians mean by their frequent precepts for giving remedies to promote the concoction of the febrile matter, which they often talk of in the beginning of the distemper, tho' at the same time they order only such medicines as may moderate the fever. For the fever itself is no other than the instrument of nature, by means whereof she separates the vitiated parts of the blood from the sound; tho' she does this in a manner perfectly imperceptible at the beginning, and even at the state of the distemper, but more manifestly in the decline thereof, as appears from the sediment in the urine. The concoction of the febrile matter here means no more than a separation of the morbid particles from the sound, whence the way to hasten this concoction is not by moderating the fever, but the effervescence must be kept up so long as the safety of the patient will give leave: but when the disease is in the decline, and the separation becomes manifest, warmer medicines should be immediately given, in order to finish the operation with greater certainty and expedition. And this is properly promoting the concoction of the febrile matter; whereas I have frequently found that evacuations and coolers hinder the cure, and put back the recovery that was now approaching. But if the fermentation advances sufficiently, despumation will be performed about the 14th day; whereas if coolers are given too late, so as to check the effervescence, 'tis no wonder if the fever runs on to the 21st day, or even much longer, in persons extremely weakened with ill treatment (*b*).

The concoction of the febrile matter, what.

Despumation finished about the 14th day.

It

(*ff*) The practice is very good, but the theory is here taken from a different metaphor.

(*g*) In the beginning of a fever the circulation is irregular, and above *par*, as to force and strength; somewhere in the middle irregular, and at *par*; in the decline irregular, and below *par*. Bleeding and other evacuations, therefore, which lessen the force of the blood, are in general proper at the beginning of fevers, and improper in the decline; cordials and blisters, which increase the force of the blood, are improper in the beginning, and proper in the decline. This may be accounted a tolerable general direction, but

Sect. 1. 28. It is remarkable here that, tho' the patient may sometimes seem to be a little relieved by the use of glysters, or other purgatives unseasonably directed, about the decline of the distemper, and even perhaps to be totally freed from the fever; yet, a day or two after, it happens that the former fever does not so much appear to return, as a new one to arise; for chillness and shivering presently come on, and are soon follow'd by heat, and a fever, which, unless it happens to degenerate into an intermittent, runs its course as already described. In this case the patient is to be treated in the same manner as if he had not had the fever before; for, tho' it be an afflicting consideration to the weaken'd patient, the depuration consequent upon this new effervescence will not be performed in less than 14 days (*h*).

*The kinds
to be used.*

29. I shall next set down the cordials which I generally use in this distemper, the milder (*i*) of which I employ at the beginning, when the ebullition is violent, and gradually proceed to the hotter, according as the fever, or the degree of ebullition requires; always observing, where bleeding was freely used, or the patient was in years, to administer those of a stronger kind, than when no blood had been taken away, or the patient was in the vigour of life (*k*).

30. The

but is much too narrow to comprehend the subtilty of nature, and variety of cases. These therefore should all be particularised, and particular directions suited thereto, wherein our author eminently excels in other parts of his works; for general directions are almost always differently understood by different persons, and one finds the most opposite practices shelter themselves under the same words.

(*h*) Perhaps theory has more share in this position than observation, at least it does not occur frequently in the present practice, and it may be, that the free use of blisters, established since this was wrote, is one reason thereof. However, it is of the utmost consequence, either to be confirmed, or disprov'd.

(*i*) Why any in such cases? But we are extremely obliged to the author for the progress he made in rejecting cordials. The modern practice gives coolers here.

(*k*) Whatever increases the forces or powers of the heart and vascular system, may be reckon'd a cordial; and, agreeably to this position, there are two kinds of cordials, *viz.* (1) proper diet, which proves a cordial by keeping up the strength of the spirits, so as to enable the patient to overcome the disease; (2) all such medicines as act by a stimulating property, and of course augment the motion both of the solids and fluids. In fevers, therefore, it should be carefully enquired whether a stimulus is wanting

30. The milder cordials I mean are such, for example, as are made of the distilled waters of borage, citrons, strawberries, the compound scordium water, with a mixture of the syrup of balm, cloves, or juice of citrons (*l*), &c. But the stronger are *Gascoign's* powder, bezoar, confection of hyacinth, *Venice* treacle, with others of the same kind. The following prescriptions were frequently used.

Take of the distilled waters of borage, citron, black cherries, and compound scordium water, each two ounces, barley cinnamon water, one ounce, prepared pearl, two drams, fine sugar, two ounces, or a sufficient quantity; mix them together. ----- Take four spoonfuls of this mixture often in a day, especially when faint. Forms of cordials.

Take of the distilled waters of the whole citron, and strawberries, each three ounces, the cooling cordial water of SAXONY, one ounce, treacle water, syrup of balm of FERNELIUS, and of the juice of citron, each half an ounce: mix them for a Julap; some of which is to be taken frequently.

Take of GASCOIGN'S powder, oriental and occidental bezoar, and LAPIS CONTRAYERVA, each a scruple, a single leaf of gold bring the whole into a fine powder, of which take twelve grains, as often as there shall be occasion, in syrup of the juice of citron, and cloves, each two drams; drinking after it a few spoonfuls of the julap above directed.

Take of treacle water, four ounces, the seeds of citron, two drams; beat them together and make an emulsion: to the strain'd liquor add enough sugar to sweeten it to the taste. ---- Take two spoonfuls of it thrice a day.

It would be needless to add any more forms of medicines, because a large number are, or may be, of use in

wanting or not; and if not, which is commonly the case, the diet must be slender and thin: Hence water is a general cordial where the juices are too thick, and proper abstinence and bleeding admirably answer the same intention in very plethoric habits. An extraordinary motion of the juices is seldom required, and therefore cordials are rarely proper; which our author only seems to have well considered. BOERHAAVE, *Prax. med.* Vol. III. p. 104, 277.

(*l*) These are scarcely cordials at all.

Sect. 1. in the course of the distemper, and require to be varied according to its different stages, and the different symptoms arising therein.

Remedies
when need-
less.

31. (3) But when the fermentation neither rises too high, nor sinks too low, I leave it in that state, without prescribing any medicines, unless thro' the importunity of the patient, or his friends; and then I direct such only as may please without prejudicing (*m*).

Persons in
low circum-
stances how
to be treat-
ed.

32. I should not omit, that frequently when I was called to persons of low circumstances, I ordered them to do nothing else, after bleeding and vomiting when required, but to keep in bed during the whole course of the distemper, and to sup only water-gruel, barley-gruel, and the like; to drink moderately of warm small beer (*n*) to quench their thirst, and to take a glyster of milk and sugar every day, or every other day, till the tenth or twelfth day of the distemper; but towards the end of the fever, when the separation was begun, and proceeded slowly to promote it, I allowed them now and then a little stronger malt liquor, instead of cordials. And thus, without any thing further, except a gentle purge at the end of the distemper, they generally did well (*o*).

A purge
when to be
given.

33. If the method above delivered was carefully observed, I commonly, about the fifteenth day, found it proper, from the laudable separation in the urine, and a manifest abatement of all the symptoms, to order a purging

(*m*) All the foregoing are pretty much of this kind; being what the modern physicians understand by non-significants.

(*n*) Clear old small-beer, neither bitter nor sour, will agree very well with those who have no *nausea*, *sickness at stomach*, nor *tendency* to a looseness. Where the symptoms are moderate, and where the blood is not too much rarefied, to deny small beer to be taken now and then moderately, is a needless severity, and very often hurtful, especially where it has always been us'd as the common diluter of the food. But in others, whose vital powers are wound up to the highest pitch, and whose blood is in vast agitation, small beer will not agree; because, however small, it contains a portion of spirit, which, by its briskness, will irritate the *fibrillæ* into more frequent and strong contractions; and as it contains a deal of very elastic air, it is ever ready to ferment, by which means it will cause still greater tumults in the blood, and render the patient delirious, if not so before. Langrish's *modern Theory and Practice of Physick*, p. 150, § (IV).

(*o*) The author seems to have fallen into his easy, natural, and excellent general method of practice from observations of this kind.

Purging potion to drain off the sediment deposited upon particular parts by the preceding fermentation; and unless this was seasonably done, that sediment might return into the mass of blood, and occasion a return of the fever; or, by its continuance in the parts where it lodged, produce obstinate disorders in the body. For the separation being over, the gross and vitiated humours, transmitted from the arteries to the veins, easily prevent the return of the blood, whence various kinds of obstructions, and, at length, new ferments arise (*p*).

34. But it may be here observed, that purging is not so necessary after vernal, as after autumnal fevers, because the sediment deposited by the former is neither so copious, nor of such an earthy malignant nature as in the latter (*q*); which holds also in the small-pox (*r*), and many other distempers that rage in the spring; so that here, as far as I have observed, it is not so dangerous to omit purging, as in the cases before-mentioned. And it seems to me, that more distempers arise from an omission of purging after autumnal disorders, than from any other single source.

When less necessary.

35. If the patient happens to be very weak, or the depuration not perfectly performed, so as to render it unsafe to give a purge on the fifteenth day, I defer it to the seventeenth, and then prescribe the following, or a similar, purging potion, in proportion to the strength of the person.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, one dram and a half; boil them together in a sufficient quantity of water, so as to leave three ounces when strain'd off; in which dissolve manna and syrup of roses, of each an ounce; mix the whole for a purging potion to be taken in the morning fasting.

A purging potion.

36. I always order the patient to keep his bed till he is purged, then permit him to rise, and by degrees return

(*p*) There is great liberty of feigning taken here.

(*q*) The practice may be good, but the theory cannot be commended.

(*r*) This practical direction is absolutely contradictory to experience; one would wonder how so careful an observer could be led to affirm this; but his theory seems to have prevailed here.

Sect. I. turn to his ordinary manner of living. The diet I order to this time is nearly the same with that above-mentioned; as water-gruel, barley-gruel, panada made of bread, the yolk of an egg, water and sugar, thin chicken broth, small beer, to which, when the fever is high, a little fresh juice of oranges may be added, it being first just boiled over the fire to take off the rawness, with the like; tho' water-gruel may serve for them all. But to forbid the drinking of small-beer in small quantities is a needless severity, and often pernicious.

The diet to be used upon recovery.

A cough at the decline how to be relieved.

37. It sometimes happens, especially in the aged, that tho' the fever is cured, and the body perhaps rather too much purged, that the patient still remains very weak; and with coughing or spitting, expectorates a large quantity of viscid phlegm: a symptom terrifying not only to the patient, but also to the physician, if not apprized of it, who might otherwise mistake it for a beginning consumption: tho' I have found it no ways dangerous. In this case I order a glass of old *Malmesey*, *Falernian*, or *Frontignac*, with a toast; which, by strengthening the texture of the blood, (weakened by the preceding fever, and therefore rendered unfit to assimilate the juices of the aliment lately taken in) removes this symptom in a very few days, as I have found by repeated experience (s).

Malignity and the scurvy unjustly accus'd.

38. By the method (t) here laid down, the patient will be preserved from several symptoms and disorders usually attributed to malignity; nothing being more common with physicians unskilled in their profession, than to cry out upon malignity, when by too cooling remedies, or the unseasonable use of glysters, they have

(s) It should seem that this matter rather proceeds from a weakness of the stomach than of the lungs, since bitters frequently give relief.

(t) The method laid down in this chapter, seems to suppose that a fever cannot be cured without running thro' its period of fourteen days. And in reality, this is the general time in which those who are left to themselves, and recover, have the strongest signs of a favourable crisis. But it is as certain that the evacuations of bleeding, vomiting and purging, will often quite extinguish a fever in a few days, and where they cannot, blistering shortens the period. And the author seems to have discovered this in other fevers, which perhaps he therefore judg'd to be of a very different nature, because he had success in different ways. But there are many different solutions of the same problem, exceeding one another however in brevity.



have weakened the texture of the blood, and reduced nature so low, whilst she was performing the office of separation, as to bring on faintings, and other bad symptoms, which are the genuine effects of such perverted rules of art: But if the long continuance of the disease should wipe off this aspersions of malignity, whatever afterwards obstructs them in the cure they impute to the scurvy; tho' in reality the symptoms that happened in the height of the disease were neither owing to malignity, nor those that appeared in the decline to the scurvy, but both of them to wrong management, as I have frequently observed. Not that I, or any other physician, who is acquainted with the history of diseases, will say that there are no fevers of a malignant nature; for there are manifest signs of such; nor will I deny that a fever may be sometimes complicated with a scurvy and other disorders; but what I assert is, that both malignity and the scurvy are here frequently blamed unjustly.

39. When the fermentation of the blood proceeds in a proper manner, the despumation of the morbid matter will be finished in the time abovementioned; but if cooling remedies, or glysters, are given too late, the fever will run to a much greater length, especially in aged persons that have been improperly treated. When I have sometimes been called to such, after they had struggled with the fever above forty days, I have used my utmost endeavours to procure the despumation of the blood, which was now so far weakened, partly by age, and partly by glysters and cooling medicines, that I could not obtain the end proposed, either by cordials, or any other strengthening remedies; but either the fever maintained its ground, or, if it seemed to go off, the strength of the patient was almost quite exhausted (u).

Coolers and glysters, given too late, prolong the disease.

40. But when other means failed me, I have made use of a singular expedient with great success, namely, the application of the heat of strong and healthy young men: nor will it be found surprizing, that by this uncommon means the patient should be considerably strengthened, and debilitated nature assisted, so as to disburthen herself, and throw off the remains of the morbid matter; for it is easy to apprehend that a con-

Good effects of applying the heat of young men.

C

siderable

(u) Blisters here are of principal use.

Sect. I.



siderable quantity of sound and wholesome *effluvia* will thus pass from a robust, healthy body into the exhausted body of the patient; and I have never found the repeated application of warm napkins to prove near so serviceable as the present method, where the heat applied is not only more natural to the human body, but also more mild, moist, equable and constant. And this way of transmitting, perhaps, balsamic spirits and exhalations into the body of the patient, however quaint it may seem, has also since been successfully used by others. Nor do I think it below me to have mentioned this expedient, whatever censure may be pass'd upon me for it, by such as condemn whatever is vulgar, as judging the health and benefit of mankind ought to be preferred to their false opinion of things.

Some symptoms here require a particular treatment.

41. By carefully pursuing the method hitherto delivered, the greater part of the bad symptoms, that either accompany, or follow upon this fever, will be prevented, which otherwise, in the course of the cure, frequently perplex the physician, and prove fatal to the patient, tho' the disease itself should have no such destructive tendency. But as such accidents are common, if the physician comes too late, be negligent, or unskilful, I will here briefly treat of the cure of those symptoms which, when they happen, require a peculiar treatment, tho' they might generally have been prevented, by keeping close to the abovemention'd method.

Method of treating a delirium.

42. And, first, if a *delirium* be occasioned, either by the too early and unseasonable use of heating medicines, or the patient's being naturally of a hot constitution; or, which is nearly the same, if he has constant watchings, speaks hastily, looks wild, drinks his medicines or other liquids eagerly, or has a suppression of urine: In this case I bleed more freely, order glysters and cooling medicines, particularly in the spring, at which time such as are young and florid, tho' free from this symptom, may be treated in the same manner, without much danger (x).

43. By

(x) Great care should be used to discover what occasions this symptom, as it may proceed from several, and those very different, causes; for instance, the activity and copiousness of the spirits, or their weakness and paucity, &c. If it happens in an acute fever, with a full and quick pulse, bleeding in the foot is proper to lessen the pressure on the brain, and divert the blood to the extremities;



Taken off by
an opiate.

43. By these means I endeavour to support the patient, till the disease has run to a certain length, when I find it easy to take off both that, and the delirium, by a large dose of some opiate; for anodynes properly given in the decline are very beneficial, whereas they prove of no service whilst the fever is high, tho' given in the largest dose, as being unable to stop the violent course of the fermentation; but chiefly because the peccant matter, then equally mix'd with the blood, and not ripe for separation, is confined, whence the expected depuration is hindered. Whether this be the reason of the thing, or it proceeds from some more latent cause, I leave to the determination of others.

Cautions as
to the time
of giving it

44. This, however, I can affirm from numerous observations, that laudanum, or any other narcotic used to take off this symptom, whether in the beginning, increase, or height of this fever, was either ineffectual, or prejudicial; whereas a moderate dose in the decline proved successful. I once ordered a narcotic upon the twelfth day of the disease, with success, but never knew it given sooner to advantage; and if it be deferred to the fourteenth day, when the separation is more perfect, it will prove still more beneficial. For I have frequently observed that the delirium may be disregarded, till it is proper to give an opiate, provided the disorder be not increased by the use of cordials, and heating medicines, which may here prove mortal. The opiates I usually prescribe, are either *London Laudanum* to a grain and a half, or the following:

Take of cowslip flowers, one handful; boil them in enough black-cherry water to leave three ounces, when strain'd off, to which add syrup of white poppies, half an ounce; juice of lemons, half a spoonful; mix the whole together.

Forms of opiates.

OR,

Take of black-cherry water, one ounce and a half; plague-water, two drams; liquid laudanum, sixteen drops; mix them together.

C 2

45. It

extremities; stimulating plaisters, or other proper applications, should be laid to the feet; nitrous medicines may also be given with advantage; and, in general, whatever cools, abates the tension of the nerves, opens obstructions, blunts the stimulus, and attenuates the juices. But if the disorder be accompanied with a weak, slow, and irregular pulse, blisters are proper, warm attenuants, and all nervous medicines. Opiates are very unsafe in this case.

Sect. I.

*To be pre-
ceded by a
purge.*

45. It may be proper to add, that if this symptom be not very urgent, and the fever be prolonged, so as that the patient may be safely purged before an opiate is given, it will then be attended with greater success. And therefore I usually direct two scruples of the greater *Pil. cochiae*, dissolved in betony water, to be taken ten or twelve hours before the opiate; and thus the disturbance this warm purgative might otherwise occasion will be prevented by the opiate, and an agreeable sleep procured. But if the watching continues after the fever, and the other symptoms are gone off, I have known a piece of linnen dipt in rose-water, and applied cold to the forehead and temples, prove of greater service than any kind of opiate.

*Treatment
of a cough.*

46. 'Tis usual for the patient to be afflicted with a bad cough during the whole course of the disease, arising from the violent commotion of the blood, whereby the juices being broke, are separated from the mass, in its circulation thro' the pulmonary vessels, and thrown upon the internal membrane of the *Trachea*, which is of a fine texture, and extremely sensible. The cough is first dry, the matter being then too thin to be expectorated; but the febrile heat gradually thickens it, and soon renders it more tenacious, whence it is with difficulty expectorated, and becomes apt to cause a suffocation, for want of sufficient strength in the patient to discharge it. In this case I seldom use any other medicine than fresh-drawn oil of sweet almonds, unless, as it sometimes happens, the patient has an aversion to oil, and if so, I endeavour to relieve him by the common pectorals. Otherwise I prefer the oil of almonds to all other pectoral medicines, chiefly because that to answer the intention they must be given freely, and in large quantities; whereby the stomach, already too weak, and subject to retchings, is overcharged; and, besides, we are sometimes by this means prevented from giving what is proper upon other accounts.

*Oil of sweet
almonds
commended
in this case.*

*Its disad-
vantages
obviated.*

47. Again, neither reason nor experience have yet convinc'd me that the use of this oil is not to be allowed in fevers, because it is of an inflammable nature, and consequently may tend to increase the distemper; for granting it to be naturally hot, 'tis however certainly not so hot, but that the advantages arising

rising from its use are greater than the inconveniences. For 'tis an excellent pectoral, opens and lubricates the passages, thereby promoting expectoration, which, when copious, frees the blood from the noxious humour, now seasonably separated, and at the same time tends to cool; so that this symptom thus proves of considerable service, for which reason I am not anxious about it. Let it, however, be observed, that 'tis unsafe to give several spoonfuls of oil of almonds at once, as retchings and a looseness may thereby be occasioned; but the frequent use of it in small quantities, throughout the day and night, not only eases the cough, by promoting expectoration, but, which is very material, the patient, now almost worn out, is in some measure recruited by this kindly nourishment.

How to be given.

48. Sometimes a *bleeding at the nose* happens, either from giving too warm medicines in the beginning of the fever, or from not sufficiently depressing the ebullition of the blood, the patient either being in the prime of life, or the season of the year conspiring with the fever. Here the means commonly made use of to check the motion of the blood will be of little service; such as bleeding, ligatures, astringent, agglutinant, balsamick medicines, &c. tho' recourse may be had to these and the like helps, according as they shall be judged proper; but the principal thing is, to stop the violent ebullition of the blood by a proper medicine; tho', in reality, if this symptom be considered apart, the remedies abovementioned, and particularly bleeding, should seem to be serviceable therein; nor have I scrupled to use them; yet as they do not (bleeding excepted) strike sufficiently at the cause of this symptom, viz. the ebullition of the blood, 'tis imprudent to depend upon them; therefore, in this case, when all other means had proved ineffectual, I usually gave the following draught:

A bleeding at the Nose how to be stoppt.

Take of the distill'd waters of purslain, and wild poppies, each an ounce and a half; syrup of white poppies, six drams; syrup of cowslips, half an ounce: mix them together for a draught. (y)

A quieting draught.

C 3

49. But

(y) So gentle an opiate does not seem likely to put a stop to a *bleeding at the nose*, where the abovemention'd means fail. If the haemorrhage be violent, therefore, it will be proper to bleed in the

Sect. 1.

All hæmorrhages not to be immediately stoppt.

49. But I judge it improper to put an immediate stop to every hæmorrhage after this manner; for 'tis frequently rather to be permitted, and may prove of great service, sometimes, by abating the too violent ebullition of the blood, and, at others, by proving critical, put an end to the disease. And, in reality, no considerable effect is to be expected from the above-mention'd remedy, unless the symptom has continued some little time, and bleeding in the arm preceded its use. Again, it must be carefully remarked that this and all other immoderate hæmorrhages are peculiarly apt to return, soon after a stop has been put to them, unless a gentle purge be given, which therefore must not be omitted, even tho' it should seem too early to purge with respect to the stage of the fever, if this symptom had not happened.

As hiccup, how to be treated.

50. The *hiccup* generally happens to the aged after an immoderate looseness, but chiefly after excessive vomiting, and frequently prognosticates imminent death. I ingenuously own that I have not been able to satisfy myself in my inquiry into the cause of this symptom; but I have frequently observed it to arise from some disturbance raised in the stomach and adjacent parts by violent medicines, not without great danger to the patient, because nature is unable to check and quiet this commotion; and on this account I judged it proper to assist her by art, by giving a large dose of *diascordium*, viz. two drams, which seldom fail'd to remove this symptom, when the seeds of dill, and other celebrated specifics, had proved ineffectual (z).

51. If,

the jugular, set cupping glasses on the shoulders, apply cooling lotions to the head and parts adjacent, bathe the extremities in warm water when they are cold, blow a styptic powder up one or both the nostrils, as it shall be necessary, or put up a tent dipt in some styptic liquor. See Sect. vi. Chap. vii. Par. 8. Cooling emulsions, opiates, subastringent and nitrous medicines are to be given internally, and a spare, thin diet used. An upright posture, with the head bending a little forwards, is the best here. If the blood be acrimonious, thin and serous, agglutinants should be freely exhibited. In case of great weakness from the loss of blood, refrain from opiates entirely, and direct mild cordials, a restorative diet, and rest.

(z) The *hiccup* is a convulsive motion of the diaphragm and some parts contiguous thereto: happening in the declension of a fever it is a dangerous symptom. In this case it is generally accompanied with extreme weakness and depression of spirits; and therefore

51. If, as above intimated, (a) a *looseness* should happen in the course of the disease, for want of giving a vomit at the beginning, when it was indicated by the retchings; one should be given at any time of the disease, provided the patient be strong enough to bear it, even tho' there be now no tendency to that evacuation. But as this has been largely treated in the foregoing pages, I shall only mention what is proper to be done, if a looseness should happen notwithstanding an emetic has been given; which is very seldom the case, except in an inflammatory fever, where this symptom, so far from being prevented, is sometimes occasioned by a vomit; which is an observation of consequence. And here I have found the following glyster more efficacious than any other astringents.

Chap 4.
A looseness
how to be
cur'd.

Take of the bark of pomegranates, half an ounce; red roses, two pugils; boil them in a sufficient quantity of milk, so as to leave half a pint of strained liquor, in which dissolve half an ounce of diascordium: mix the whole for a glyster.

An astringent glyster.

'Tis improper to inject a larger quantity of this glyster than is here directed, tho' it be naturally astringent; because the intestines may be oppress'd by its bulk, whence the looseness will rather be promoted than check'd (b).

C 4

52. But

therefore the opiates directed should be of the warm or cordial kind, and given in small quantities, otherwise they may sink the spirits still more, and bring on a fatal stupor. Hoffman here prefers gentle antispasmodics and anodynes to opiates; such as *amber, castor, cinnabar, saffron, &c.* When this disorder proceeds from viscous or irritating matter lodged in the stomach or first passages, a vomit is proper, if the patient be strong enough to bear it. If occasion'd by depletion, or immoderate evacuations, a restorative and nourishing diet, and a moderate use of wine, give relief. If by an internal excoriation, or inflammation, from a corrosive poison, or other like cause, *warm milk, and oil of almonds, or oil-olive,* should be drank in large quantities, and also plentifully injected by way of glyster.

(a) See above, Par. 19.

(b) It is a very difficult matter to lay down a general method of cure for a *symptomatic looseness*; as it may proceed from a great variety of causes, and occasionally require to be check'd, or promoted. However, when it happens near the crisis, and is not too violent, it must by no means be check'd, as it may happily terminate the disease. But if danger be apprehended from the sinking of the pulse, fainting, &c. blisters, perspiratives, and gentle cordials, both of the medicinal and dietetic kind, will prove of very considerable service, in checking it, as well by way of revulsion, as by strengthening the patient.

Sect. I.

Rather to
be check'd
than encour-
aged.

52. But it may be said, that if a diarrhoea should appear, especially in the decline of the disease, it is better to encourage than stop it; as it is sometimes a critical discharge, and terminates the distemper. This undoubtedly may sometimes be the case, but it happens so rarely, as not to encourage one to attempt it; besides, the reason before alledg'd, in treating of the cure of fevers in general, which tends to shew the necessity there is of stopping the flux, holds here also. And to this may be added, that in order to the genuine depuration of the blood, it is not only necessary there should be a secretion of some feculent parts, but there is further required a separation of others by way of *efflorescence*, as we daily see in other rich and heterogeneous liquors. Consequently if the looseness be too much promoted, the depuration will not be wholly compleated, and perhaps the matter, that ought to have been last expell'd, will pass off first. I own indeed that after the separation by way of *efflorescence* is finish'd, which is usually perform'd gradually and insensibly, and by means of a freer perspiration, rather than of a manifest sweat, if then a looseness should happen, it would be attended with little danger; for it must be observed that now 'tis only owing to a neglect of purging in time, whence the excrement, for want of being evacuated, contracting a kind of malignant ferment, irritates the intestines to discharge their contents; besides the very liquid consistence of the excrement is a proof that the looseness ought not to be accounted a critical solution of the disease (c).

The iliac
passion
whence.

53. Possibly the *iliac passion* deserves to be enumerated among the symptoms consequent upon fevers, since it is sometimes occasion'd by immoderate vomiting in the beginning of the disease. This terrible disorder, which has hitherto been generally esteem'd fatal, is owing to the inversion of the peristaltic motion of the guts, whence their contents are forced upwards, and thrown out by vomiting, so that the strongest glysters become emetic, as do likewise cathartics, immediately after being taken. And I judge the exquisite and intolerable pain attending this disorder proceeds only from the inverted peristaltic motion of the bowels, whose natural formation is such, as by their many folds

to

(c) The reasoning of this paragraph is very theoretical.

to promote the descent of the fæces in the properest manner; and therefore whenever they are forc'd to yield to a motion opposit to that of their fibres, a pungent pain is occasion'd, which remains fixt upon a particular part, when either the valve placed at the beginning of the *colon*, to prevent the return of the excrement into the *ileum*, or any other membrane belonging to the cavity, singly sustains the force of this preternatural motion. This inverted motion, productive of the pain, may proceed either from (1) obstruction, or (2) irritation.

54. (1) It is manifest that whatever blocks up the passage of the intestines, must needs occasion this contrary motion in them; and this may happen, according to authors, (1) from hardened excrements, (2) much *flatus* collected in the bowels, and as it were purging them up, (3) strangulation from a rupture, (4) inflammation, (5) and lastly, large swellings filling up their cavity. However, 'tis plain that the inverted motion, proceeding from these causes, is rather to be accounted the motion of the aliment taken in, than of the intestines themselves; nor is it an inversion of the motion of the whole duct, but of those parts only which are situated above the seat of the obstruction; for which reason I call it the *spurious iliac passion*.

Whence the inverted motion of the intestines.

55. (2) I conceive the inversion of the peristaltic motion generally proceeds from acrid and peccant humours being deposited in the stomach and adjacent intestines, from the violent fermentation of the blood in the beginning of the fever, whereby the motion of the stomach is first inverted, and its contents thrown up with violence, and then the small guts that are contiguous to it, being weakened, yield to the violent motion of the stomach, and at last the large guts are also made to sympathize with them. This is the *true iliac passion*, and the disorder under consideration. The method of curing it has hitherto remained a secret, notwithstanding the pretensions of such as have had recourse to quicksilver, and leaden bullets, which do little service, and are frequently very dangerous.

56. As soon as it appears from glysters being vomited up, and other signs, that the disease is a true iliac passion, I endeavour to answer these three intentions:

The intentions of cure to be answered.

(1) To

Sect. 1.

(1) To put a stop to the inverted motion of the stomach, which produces the same in the intestines.

(2) To strengthen the intestines weakened by the sharp humours. And

(3) To free the stomach and bowels from these sharp humours.

In what manner.

57. (1) I direct a scruple of *salt of wormwood*, with a spoonful of *lemon juice*, to be taken morning and night, and in the intervals give some spoonfuls of *mint-water* by itself, twice every hour, by the repeated use of which the vomiting and pain may be soon removed.

(2) At the same time I order a live puppy to be applied to the belly, till the following purgative is given.

(3) Two or three days after the pain and vomiting are gone off, I give a dram of the greater *Pil. cochia*, dissolved in *mint-water*, and direct draughts of *mint-water* to be frequently taken during the operation of the purge, in order to prevent the return of the vomiting.

58. I have observed that 'tis in vain to give this, or any other the strongest kind of purge, before the stomach be strengthened, and reduced, together with the intestines, to its natural motion; for otherwise all cathartics will prove emetic, and consequently be more prejudicial than serviceable. And this reason induced me to forbear purgatives, till I had first used stomachics awhile.

59. The diet I direct is very sparing; for I allow the patient only to sup some spoonfuls of chicken broth, twice or thrice a day, and confine him to his bed during his illness, and till the signs of recovery appear; directing him to continue the use of the *mint-water* for a considerable time after the cure, and to keep the belly warm, by wearing a double flannel, whereby a relapse may be prevented, which happens more frequently in this, than in any other disease (*d*).

60. In

(*d*) The *true iliac passion* will, doubtless, rarely be found to yield to so few and gentle remedies; and therefore we shall add some further directions relating to the cure thereof. When a fever has preceded or accompanies it, all heating medicines should be forbore, for fear of occasioning an inflammation of the intestines, and paving the way to an incurable gangrene. Bleeding is proper, and sometimes requires to be repeated a third or fourth time; an emollient and laxative glyster should be given every hour, or every two hours; for *Boerhaave* tells us, (whose method this is in great part) that several have perish'd, because glysters were not given

60. In these few particulars consists my whole method of curing this disease, which, 'tis hoped, no one will deliberately condemn, on account of its simplicity, and the want of elegance of language, and the pomp of medicine to recommend it.

61. Thus I have enumerated the symptoms that usually happen in this fever; but there are others I shall not now mention, as they are of less moment, and require no particular treatment, but go off spontaneously, if the fever be skilfully treated. And let this suffice for the continued fever of this constitution, with its symptoms (e).

C H A P.

given often enough. A tea made of *linseed*, or *marsh mallow roots*, and \S like, may be used warm for common drink; to which *nitre*, *juice of lemons*, *dulcified spirit of nitre*, &c. may be added in a proper quantity. It is adviseable to continue the process, and keep to a cooling, emollient, spare diet, for, at least, two or three days after the disease is gone off, in order to prevent a relapse. Opiates may be exhibited along with purgatives. If the disorder be caused by strangulation from a rupture, we must, before exhibiting any medicines, endeavour to disengage and replace the intestines, by applying emollient fomentations and cataplasms to the part affected; and, all means failing, recourse must be had to the surgical operation requisite in these cases. But no probable method should be left unattempted, if the case be not too urgent to admit of any delay, before proceeding to an operation, that is always dangerous, and demands uncommon skill and dexterity in the operator. Warm bathing in a decoction of *marsh mallow roots*, *linseed*, *fenugreek seed*, *elder and camomile flowers*, *poppy heads*, and other like ingredients, in *milk and water*, is an admirable remedy, and particularly in the last mention'd case. In desperate cases *quicksilver*, prudently administered, has sometimes given relief. The method is to begin with a small quantity, and increase it by degrees.

(e) We have, as we went along, taken notice of the deficiencies this history of the cure of a fever labours under, as being too loose, hypothetical, general, and incomplete; and it should seem that our author was well aware of it, he having been abundantly more exact in most of his following treatises, where we shall generally find a just and full description of the disease under consideration, a minute and particular detail both of its usual and unusual symptoms, together with safe methods of practice, judiciously suited to the several changes thereof.



C H A P. V.

Of the intermitting Fevers of the Years
1661, 1662, 1663, 1664.

1. **T**HE constitution, as we observed above, that prevailed thro' all the preceding years, having so eminently favour'd the rise of all kinds of intermittents, I will here set down the observations I then made concerning them, and also add those which relate to the few intermittents that have happened sporadically since that time, that I may not break in upon the history of the following years.

The 3 stages
of intermit-
tents to be
considered.

2. And first it must be observed that, in order to conjecture something, at least, of their nature, regard must be had to the three different stages of the fits of intermittents; viz. (1) the *shaking*, (2) the *ebullition*, and (3) the *despumation*.

Description
of the 1st.

(1) I judge the *shaking* proceeds from this cause, that the febrile matter, which, being not yet turgid, was in some measure assimilated by the blood, becomes, at length, not only useless, but prejudicial to nature, raises a kind of violent motion in the mass, and endeavouring, as it were, to escape, causes a chillness and shaking; which shew how pernicious in its nature the febrile matter is to the body, in the same manner, as purging draughts in weak stomachs, or poison casually swallowed, immediately occasion a shivering, and other symptoms of the same kind.

The second.

3. (2) Nature, therefore, being by this means irritated, raises a *fermentation* in order to expel the enemy with less difficulty; this being the common instrument she uses to free the blood of its morbid particles, as well in fevers, as in some other acute diseases. For by means of the fermentation, the separated parts of the peccant matter, that were equably mixed with the blood, begin to be united together, in some measure, and consequently may be more easily moulded, so as to be fitted for despumation. That this is probably the case, appears from the death of such as die in the fit, which generally happens in the first stage of it, viz. during the *shaking*, or *cold fit*; for if they survive till the

the effervescence, or hot fit comes, they escape at least for that time. Both these stages are severe, (3) but in the third, namely the *despumation*, all the symptoms first grow milder, and afterwards go off entirely. *By despumation, I mean no more than the expulsion, or separation of the febrile matter, now in a manner overcome, when what is thrown off partly resembles yeast, and partly lees, as may be seen in other liquors.*

4. Having premised these particulars, I proceed next to shew why the fit returns, tho' the patient now seems to be out of danger: and this arises from the febrile matter's not being wholly thrown off, whence the latent remainder re-appears, according to the nature of the fits, and occasions fresh disturbance, running thro' the several stages above described. How it happens that this latent remainder (not sufficiently overcome by the preceding effervescence, and consequently not expell'd with the other peccant matter) does not proceed with the same regularity in every intermittent, but sometimes requires one day, sometimes two, and at others, three days, before it comes to maturity, and causes a new fit, is what I cannot account for; neither do I know that any one has hitherto sufficiently explained this secret operation of nature.

Whence the return of the fit.

5. I do not desire to be called a philosopher, and for such as conceive they have a right to this title, and, upon this account, may possibly censure me for not having attempted to dive into these mysteries, I advise them to exercise their faculties in accounting for the various works of nature that every where surround us, before they dictate to others. I would gladly learn, for instance, why a horse comes to his full growth in seven years, a man in twenty one; why some plants usually flower in *May*, and others in *June*; not to mention innumerable other effects, whose causes are as hard to be discovered (a). Now if the learned think it no way

(a) A search into efficient, or material causes is doubtless one of the most idle and impertinent uses we can make of the powers of our understanding; for, as they lie far beyond the reach of the senses, we cannot but fail in the attempt; and it is not improbable, on a supposition we could come at them, that they might rather serve to gratify a vain curiosity, than advance us in useful knowledge. Would it not then be acting more prudently, to resolve them into the will and pleasure of the creator, without presuming

Sect. 1. way lessens their reputation, to confess their ignorance in these points, I see no reason, why I should be censured for remaining silent, in a matter not less obscure, and perhaps wholly inscrutable; especially as I am persuaded that nature proceeds in this case, as in all others, with a certain regularity and uniformity; the matter of tertians and quartans being not less subject to, and governed by the laws of nature, than all other kinds of bodies are.

Their symptoms and particular kinds described.

6. All intermittents, in general, begin with a chillness and shaking, which are soon followed by heat, and then by sweat. The patient usually vomits both in the cold and hot fit, complains of great sickness, is thirsty, his tongue dry, &c. And these symptoms abate in the same degrees as the sweat increases, which, becoming more copious, ends the fit (*b*). And now the patient continues tolerably well till the fit returns at the usual time;

suming to penetrate into what he should seem to have cover'd with an impenetrable veil; and rather apply ourselves to mark their effects, and operations, so as to draw from thence a set of directions, which, being built on so solid a foundation, might, if judiciously applied, and varied as particular circumstances may require, serve to conduct us with safety and security in most occasions? Had the generality of physicians, for instance, who for many ages past have racked their brains to no purpose, in order to discover the remote and latent causes of simple and obvious effects, made this the sole scope and end of their researches, what a fund of beneficial knowledge would have been amassed by this time! It may seem strange that in so great a length of time they should not have perceived that they have no adequate faculties for those sublime enquiries, but that all the truly useful, or scientific knowledge they can ever hope to gain, is only to be had from observation and experience, every thing else being eternally liable to be controverted, as existing only in the imagination.

(*b*) The disease here being very imperfectly describ'd, we shall give a more exact and circumstantial detail of its symptoms.—These are heaviness, pain of the head and limbs, pain in the loins, paleness in the face, chillness of the extremities, yawning, stretching, and often violent shaking, a small, slow pulse, thirst, retching and sometimes vomiting of bilious matter. In the hot fit, a heat of the whole body, redness and distension of the skin, a quick and strong pulse, watchfulness, short breathing, and sometimes raving, high coloured urine without a sediment: these symptoms abate by degrees, and an universal sweat appears, which soon terminates the fit; this generally lasting ten or eleven hours, and sometimes twenty, according to the difference of constitutions, and the nature of the morbid cause.—The patient is indisposed the following day, chill, and apt to shiver, has a weak and slow pulse, his urine is thick and pale, and either deposits a sediment, or contains a small cloud suspended therein.

time; which, in a quotidian, happens once in the space of twenty four hours, or a natural day, in a tertian every other day, and in a quartan every third day; calculating from the beginning of the immediately preceding fit to the beginning of the next. But the two latter are frequently doubled, so that a tertian comes every day, and a quartan two days successively, the third being the intermediate, or well day; and sometimes, when it proves a triple quartan, it comes three days successively, the intermittent deriving its name from the manner of its first appearance.

7. This redoubling of the fits is sometimes caused by the too great quantity and activity of the febrile matter; in which case the *additional* fit precedes the *original* one: but sometimes, when the patient is considerably weakened, and the violence of the fit abated, either by too free an use of cooling medicines, or profuse evacuations, the *additional* fit follows the *original* one, and is both milder and shorter than it. In the former instance, the violent motion of the matter does not wait for the due time of its return, and finishes its despumation in a shorter time; but in the latter, the blood, being too weak to throw off the febrile matter at once, immediately causes a fresh fit, in order to expel the remainder. And perhaps upon these two contrary causes, both the anticipation, and the slower approach of the fits, in common regular intermittents, may depend: both which frequently happen in quotidians.

Whence the redoubling of the fits.

8. Intermittents are either of the *vernal*, or *autumnal* kind; tho' some arise in the intermediate seasons; but as these are not so frequent, and may be referred to Spring or Autumn, according as they approach nearest to either, I shall comprehend them all under the two species abovementioned. These diseases make their first appearance in *February* and *August* particularly; tho' sometimes they appear sooner or later, according as the air is more or less disposed to produce them, which, of course, renders them more or less epidemic. The *autumnal* intermittents of 1661 were an instance of this; for I remember that a woman was this year seized with a quartan upon St *John's* day, and numbers very early in the season; and afterwards, in the

All inter-mittents either vernal, or autumnal.

Sect. 1. the declension of the year, these distempers became very epidemic.

The two kinds differ essentially.

9. This distinction of intermittents is so necessary, that unless it be well attended to in practice, no just prognostic can be formed of their continuance, nor a method of cure directed; suitable to the different nature, both of the seasons, and disorders. It must be own'd that the intermittents of both seasons do not greatly differ, either as, (1) to the manner of their attack; which begins with a shaking; is soon succeeded by heat, and at length goes off with sweat; or (2) the difference of their appearance, in which respect some are tertians both in spring and autumn: and yet I judge that they differ essentially from each other.

Vernal intermittents whence, and their progress.

10. I will begin with *vernal* intermittents, most of which are either *quotidians*, or *tertians*, and appear sooner or later, according to the various disposition of the season. For the spirits having been concentrated and invigorated by the winter's cold, are drawn out by the heat of the approaching Sun, and, being mixed with the viscid juices, wherewith nature had stock'd the blood during that season, (which, however, are not so viscid as those whose fluid parts have been nearly exhal'd by the preceding heat in *autumn*,) are, whilst they endeavour to escape, detain'd, and as it were entangled, and consequently occasion this *vernal ebullition*, in the same manner as is observed to happen upon exposing bottles filled with beer to the fire, after having been long kept buried in sand, or in a cool cellar, whence the liquor begins to work, and endangers the bursting of the bottles. The blood, thus disposed, attempts its depuration, and, by means of its volatile salts, finishes it in a short time; unless the juices be too viscid, so as to check the fermentation; and tho' this should happen, yet the vernal effervescence seldom proves continued and lasting, but is usually divided into different fits. For the blood, abounding at this season with active spirits, nature precipitates her work, and by particular fits perfectly compleats the secretion of some parts, before she finishes the universal Separation. And this seems to be the reason that there are but few continued fevers in spring, and particularly in its decline, unless an *epidemic* constitution should happen to prevail; the fermentations which arise at this time, either

Few continued fevers in spring.

either suddenly ceasing, or hastening to an intermission; or lastly, such parts of the juices as were best fitted for separation, are speedily and violently thrown upon some other part of the body; whence quinseys, peripneumonies, pleurisies, or the like dangerous diseases immediately arise; these distempers happening chiefly at the decline of the spring.

11. It has been already observed that vernal intermittents generally go off in a short time, and always prove salutary; so that the aged or infirm can scarce be endangered thereby, without very unskilful treatment. But I have sometimes known vernal tertians prolong'd to autumn, by improper bleeding and purging, together with an unsuitable regimen; but this season being very contrary to their nature, immediately check'd them, the patient in the mean time being almost worn out by the frequent redoubling, and long continuance of the fits, so that he seemed in great danger, tho', as far as I have hitherto been able to observe, he always recovered.

Vernal intermittents seldom lasting, and always salutary.

12. Neither have I met with those dangerous symptoms, in such as are cur'd of this disease, which, as shall hereafter be shewn, follow upon inveterate autumnal intermittents; viz. a mortal inflammation of the tonsils, a hard belly, dropical swellings, &c. But when the patients have been extremely debilitated, by the long continuance of the disease, the doubling of the fits, and repeated evacuations, they have been seiz'd with a madness, when they began to recover, which went off proportionably as they gathered strength.

Sometimes succeeded by a madness.

13. But autumnal intermittents differ very much from vernal ones. For tho' a tertian in those years, when 'tis not epidemic, and seizes healthy persons, does sometimes go off in a short time, and is accompanied only with the symptoms common to vernal tertians; yet when it is epidemic, and seizes the aged, or persons of an ill habit of body, it is not without danger, and continues two or three months, and perhaps runs on even to the following spring. But quartans are more dangerous and obstinate than tertians; for very old persons are sometimes destroyed by a few fits, dying in the cold fit. Those who have just entered upon old age are not indeed in so much danger of sinking under the disease in so short a time, but are scarce ever

An autumnal epidemic tertian sometimes dangerous.

Sect. I. cured before the return of the same period of time of the following year, wherein they were at first seiz'd: and sometimes this disease leaves some disorder behind, that in the end proves mortal.

A quartan sometimes succeeded by dangerous symptoms.

14. A quartan now and then changes its form, and likewise produces a train of different symptoms, as the scurvy, a hard belly, a dropsy, &c. But young persons are better able to bear this distemper, from which they are sometimes freed about the winter solstice; tho' it happens more frequently, particularly when bleeding and purging have been used, that their recovery is prolonged to the subsequent *vernal equinox*, or even the succeeding *autumn*. I have often wonder'd to see infants struggle with this disease for six months, and at length recover.

Soon goes off, when it comes a second time.

15. 'Tis well worth observing here that when a person is seiz'd with a quartan, who has had it before, tho' long since, it terminates spontaneously after a few fits, of whatever age or constitution he be (c).

Vernal intermittents, how to be treated.

16. I have always been of opinion that vernal intermittents might be wholly left to themselves, having never known a single person destroyed thereby; and on the contrary have observed that the attempting their cure, especially by evacuating medicines, tended only to render them more obstinate (d). But if the patient will not be satisfied, unless something be done to relieve him, various methods may be successfully employ'd for this purpose, as I have frequently experienc'd.

Sometimes cured by a vomit,

17. A vomit seasonably given, so as to have done working before the fit begins, sometimes proves a cure; and especially if a moderate dose of syrup of white poppies, or any other opiate, be given after the operation is over. Sometimes diaphoretics, especially in *vernal quotidiens*, effect a cure, by promoting the sweat that breaks out towards the end of the fit, provided the patient

(c) This observation is sometimes contradicted in practice.

(d) In general, vernal intermittents are not dangerous, and may be suffered to go off spontaneously; but sometimes physicians find it necessary to attempt their cure; otherwise they are apt to prove inveterate in some constitutions, and occasion other obstinate disorders. And 'tis observable that they are commonly cured by evacuating medicines, such as vomits, gentle laxatives, sudorifics, blisters, and sometimes bleeding. So that it may seem strange our author should except against a method, which yet in the next paragraph he lays down for safe and successful.

patient be well covered, and the sweat continued as long as he can bear it; for the juices not being very thick in this season, the disease is perfectly cured, which would otherwise return: but this never happens in autumn. I have also sometimes cured *tertians* by giving glysters upon three or four of the intermediate days.

Sometimes
by glysters.

18. But if bleeding be used too freely (*e*), which inconsiderate persons easily yield to on account of the season, or by reason of the preceding weakness of the patient, the spirits, which should directly attempt the business of despumation, be so far impoverish'd as to be unable to perform it, *autumnal tertians* may then withstand all our endeavours, and perhaps prove as lasting as *autumnal ones*; tho' they do not usually continue so long, but either go off spontaneously, or soon yield to the use of a few gentle remedies.

Copious
bleeding re-
tards the
cure.

19. But *autumnal intermittents*, of which I am now to treat, are not so easily conquered. When the constitution is epidemic they usually appear about *June*, but otherwise not till *August*, or the beginning of *September*, and very rarely in the following months. When numbers are seiz'd at the same time, we may generally observe that the fits come exactly in the same manner, and at the same hour of the day, a little sooner, or later perhaps, unless this order be disturbed by remedies that either hasten or retard the coming of the fit.

Autumnal
intermit-
tents de-
scribed,

20. It must likewise be noted that 'tis a difficult matter at the first appearance of intermittents, especially of those that are epidemic in *autumn*, to distinguish them exactly, because, at this time, they are accompanied with a continued fever; and for some time afterwards, unless great attention be given, nothing more than a remission can be discovered; but by degrees they perfectly intermit, and put on a form entirely agreeable to the season of the year.

Hard to be
distinguish-
ed.

D 2

21. They

(*e*) There is often no necessity for bleeding at all; it may however be used to advantage when the intermittent, at its first coming, resembles a continued fever, and is accompanied with great heat, and a delirium, the patient in the prime of life, of a sanguine constitution, and accus'd med to drink wine freely; but when the stomach is foul, and the patient not plethoric, bleeding is pernicious, because it checks the healthful evacuations by the pores, whence the disease is render'd more stubborn, and made chronic, as experience shews.

Sect. I.



21. They are, however, either *tertians* or *quartans*; (but the latter are deservedly accounted the genuine product of *autumn*) and, in reality, so much alike, that they frequently vary, at least for a time, from one to the other; shortly after, perhaps, re-assuming their pristine form. But *vernal tertians* never assume the shape of *quartans*, because they differ widely from each other; nor have I ever seen a *quotidian* happen in this season, unless a *double tertian*, or a *triple quartan* should seem to deserve that name.

The cause of
autumnal
intermit-
tents.

22. I judge that these intermittents are occasioned nearly in the following manner; *viz.* as the year advances the blood is likewise proportionably enrich'd, (just as vegetables manifest the course of the year by their growth and decay) till it comes to its height, and ultimate vigour; after which, keeping pace with the time of the year, upon the declension thereof, it also declines; and more particularly when some accidental cause contributes thereto, as a great loss of blood, taking cold, the use of indigestible and excrementitious food, unseasonable bathing, and the like. For the blood, being in this depress'd state, is subject to every morbid impression, that any constitution of the air may communicate to it, which, at this time, tends to produce intermittents, epidemically. And to this the immediately succeeding ebullition tends, which happening sometimes, in extremely vitiated blood, occasions a bad fever, accompanied with several malignant and dangerous symptoms. But from whatever cause it arises, the blood, having been considerably impoverished, and, as it were, torrefied by the heat of the preceding summer, will perform its ebullition slowly, and require much time to finish its depuration (*f*).

Whence so
hard to cure.

23. In order now to shew how difficult it is to cure autumnal intermittents, the dissimilitude between the
con-

(*f*) This account of the cause of *autumnal intermittents* is not a little obscure and unsatisfactory; and it may seem strange that this great man, who was so professed an enemy to hypothetical speculations, should, notwithstanding, so frequently attempt to reason upon matters, which lie so far out of the reach of the acutest understanding, that a little attention to the subject will convince us of the impossibility of arriving at any certain and demonstrative knowledge thereof. Besides, is it not trifling to make such nice researches into causes, that, in all probability, will always remain latent, whilst the effects are overlook'd, from which alone we are to expect any advantage?

continued and intermittent fevers of this season must be well considered; which chiefly consists in this, that continued fevers carry on the effervescence once begun, regularly and uninterruptedly to the end of the disease; whilst intermittents perform the business by parts, and at different times: but in both the effervescence is finished in about three hundred and thirty six hours, the time that is ordinarily requir'd for the depuration of the mass of blood in a human body, when the business is wholly left to nature; in the same manner as wine, beer, and cyder have each a peculiar time wherein its depuration is finished.

The time spent in the effervescence.

24. But tho' the blood sometimes in *intermittents*, as it happens in a *quartan*, attempts, and at length finishes its depuration in six months; yet by an exact computation it will appear that there is no more time employ'd here, than is, for the most part, naturally spent, in compleating the depuration in continued fevers. For fourteen times twenty four hours, or fourteen natural days, make three hundred and thirty six hours; so that allowing five hours and a half for the duration of every fit of a quartan, the whole will be equal to fourteen days, that is, three hundred and thirty six hours. If now it should be said that a quartan sometimes lasts above six months, which also holds in other intermittents; I answer, that the continued fevers of this constitution are likewise often prolonged beyond fourteen days: but, in both cases, if care be had to regulate the effervescence in a proper manner, and keep it brisk, especially towards the declension of the disease, the despumation will be finish'd in the time abovementioned. Whereas if, at this juncture, the fermentation be unseasonably check'd by cooling medicines, or glysters, no wonder the disease proves lasting; the procedure of nature being by this means disturb'd, and the texture of the blood in a manner loosened or broken, so that it cannot effectually attempt the despumation; which also sometimes happens spontaneously in weakly constitutions, unless drooping nature be assisted with cordials to enable her to finish the business of despumation.

The same in continued fevers and quartans;

25. It must here likewise be observed, that what has been said of the continuance of the fermentation is to be understood only of such fevers as have arrived to a fixt state: for there are fevers, both of the continued

But different in some fevers.

Sect. I. and intermittent kind, which are of a variable nature, and do not reach the limited period in their effervescence. Such are those that sometimes arise from a small error in the non-naturals, respecting aliment, drink, air and the like: but they often terminate in a short time; as they also do in young persons whose blood is pure, and rich in spirits. For as their fevers proceed from a certain spirituous, subtle, and volatile matter, they finish their fermentation speedily, and go off.

The requisites for fermentation.

26. Now in order to raise a fermentation, 'tis necessary that the fermentable matter, whether blood, wine, or any other liquor, be of so viscous and tenacious a nature, as to detain, and, as it were, envelope the spirits therein contained; yet so as they may be able to be moved briskly in the liquor, but not to fly off. Let it, however, be remember'd, that the liquors above-mention'd must not be so viscous, as to oppress the spirits entirely, and so prevent their being moved at all (g).

Intermittents how to be treated.

27. These particulars being laid down, which I conceive are rational and well-grounded, it will not seem strange that I propose no other method of cure in intermittents than should seem to be us'd in order to finish the despumation in continued fevers; since there is no difference between them, as to the manner wherein nature usually expells the morbid matter; viz. by means of an effervescence limited to a fixt time: tho' with respect to their kinds, and the peculiarity of their nature, I own they differ from continued fevers, and also considerably from each other. The curative indication, therefore, must be taken either (1) from a careful observance of the steps which nature takes to overcome the disease, that so we may quicken the fermentation already raised, and by this means recover the patient: or (2) we must endeavour to investigate the specific cause,

(g) It will not seem strange that we have here so lame and imperfect an account of the requisites for fermentation, if it be considered that our author might not perhaps be eminently skil'd in chemistry, and also that in his time this extensively useful science had receiv'd little improvement, and was far short of the flourishing state we now see it in. Whoever desires to see a particular account of fermentation, may have recourse to *Boerhaave's Chemistry, Vol. II.* where he will find the subject largely treated: Or to *Dr. Shaw's Chemical lectures*, where it is treated with great clearness, order and conciseness.

cause, in order to remove the disease by effectual and specific remedies: Indications are to be deriv'd from one of these two sources.

28. I have tried both methods with care and application; but have not hitherto been able to cure *autumnal intermittents* before they had finish'd their stated fermentation above specified, however disagreeable it has been to the patients to wait so long for their recovery. If therefore any one is possess'd of either a certain method, or specifick remedy, that will not only put a stop to, but thoroughly cure these disorders, he is, in my opinion, bound to discover it for the good of mankind; which if he does not do, he neither deserves the character of a good, nor of a wise man. For it would not be acting the part of a good man, to convert to his private advantage what might prove so eminently serviceable to the public: nor of a wise man, to deprive himself of the blessing he might justly expect from heaven, by endeavouring to promote the public good. For honour and riches are held in much less esteem by good men than virtue and wisdom.

29. But tho' it be difficult to cure *autumnal intermittents*, yet I will set down what I have found most effectual to this end. Frequent experience has taught me that there is great danger in attempting the cure by purging, (unless in the way hereafter to be mention'd) but more by bleeding. For in *tertians*, particularly in a very epidemic constitution, unless bleeding directly removes the disease, it is prolong'd thereby, even in strong and otherwise healthy subjects; but aged persons, after having long struggled with it, are destroyed thereby, their death being generally immediately preceded by a mortal inflammation of the tonsils, as abovemention'd (b). Again bleeding causes those symptoms to come sooner, which, as we said above, accompanied autumnal intermittents at their decline, or soon after their removal; but it is so detrimental in *quartans*, as to occasion the disease to last a year, in young persons, which otherwise would have gone off in six months. And in the aged, who, if bleeding had not been used, might have recover'd in a year, there is danger of the disease being prolong'd thereby beyond that time, and of its proving mortal in the end. What

Bleeding
and purging
unsafe in
autumnal
intermit-
tents.

D 4

has

(b) See above, Par. 12.

Sect. I. has been observ'd of bleeding holds also of purging, with this difference, that the latter is less dangerous, unless it be frequently repeated (i).

The cure of
autumnal
tertians.

30. I begin the cure of autumnal tertians in this manner: the patient being put to bed, and well covered, I endeavour to raise a sweat by giving sage posset drink, about four hours before the coming of the fit; and as soon as the sweat begins I give two scruples of the greater *Pil. cochiae* dissolved in an ounce of the following mixture:

Take of aqua vitæ; a pint, Venice treacle three ounces; saffron one dram: let them stand together in infusion (k).

These remedies being taken as directed, the sweat is to be encouraged for some hours after the beginning of the fit, with care to prevent a stoppage of it, which might otherwise be occasioned by the operation of the purgative.

Successful-
ness of the
method.

31. I have found this method more successful in the cure of this disease, than the use of the common decoction, suited to the same intention, and prepared with *gentian root, the tops of the lesser centaury, &c.* with a small quantity of *sena and agarick*. For as it produces two contrary motions at the same time, *viz.* sweating and purging, it acts in the same manner as the decoction, in disturbing and interrupting the ordinary course of the fit; and is doubtless more effectual, and as safe (l).

32. When

(i) Bleeding may sometimes be very advantageously us'd; as where the intermittent is suspected to proceed from an obstructed circulation in the *viscera* of the *abdomen*, which hypochondriac persons, and such as have been formerly afflicted with the piles, are subject to; and in pregnant women, who are in general plethoric, 'tis absolutely necessary, in order to prevent a miscarriage from the violent motion rais'd in the blood by the febrile symptoms. A single bleeding, properly directed, has remov'd a stubborn quartan. To guide us in this particular, the season of the year, the stage of the disease, the strength of the patient, the state of the fluids and solids, and other necessary circumstances must be maturely considered and compared.

(k) Many inconveniences may justly be apprehended from the use of this extremely heating medicine, in young persons of a sanguine constitution; so that if sweating be judg'd proper, it would be safer in most cases to give some mild sudorific, with frequent draughts of sack-whey, sage-tea, or the like.

(l) This method seems impracticable, unless in strong phlegmatic constitutions, for in tender, weak and delicate habits, the exciting two such directly contrary motions may be attended with fatal consequences; and this may be the reason that it has not hitherto greatly prevailed, notwithstanding the uncommon defence

32. When a *tertian* has varied its form, and is become a *double tertian*, on account of the patient's having been weakened, either by evacuations, or any other way, a sweat must likewise be raised, as above directed (30) and at the same distance of time from the coming of the next fit, either by giving the remedy there specified, or some other powerful sudorific, which may also be repeated in the succeeding genuine fit: but the *Pil. cochiae* must be omitted, because 'tis unsafe, as well as useless to weaken the patient more by purging, and by this means promote the doubling of the fits, when he has been already debilitated thereby. In extreme weakness from this cause I direct the following electuary.

Take of the conserve of flowers of borage and bugloss, each, one ounce; conserve of rosemary, half an ounce; candied citron-peel, and nutmeg, Venice treacle, of each three drams; confection of alkermes, two drams; mix them up into an electuary; of which let him take the quantity of an hazel nut, morning and night; drinking after it six spoonfuls of the following julap.

The elec-
tuary.

Take of the distill'd water of meadow sweet, and treacle water, of each three ounces; syrup of cloves an ounce; mix them together.

The julap.

Instead of the julap I sometimes give some simple plague water sweetned, with sugar; at the same time forbidding the use of glysters, and allowing chicken broth, water gruel, &c. by way of diet.

33. With respect to *quartans*, whoever is but slenderly skill'd in physic cannot, I conceive, but know how unsuccessful all the usual methods of cure hitherto directed have prov'd, unless by means of the *bark*, which yet more frequently checks, than cures the disease. For after it has lain dormant for two or three weeks, and the patient has thus had a short respite from its violence, it returns afresh, as severely as before, and generally requires a length of time before it can be conquer'd, notwithstanding the bark be frequently repeated. This however shall not hinder me from setting down what I have experienced, with relation to the method of giving this valuable medicine.

Quartans
how to be
treated.

34. (1) Great

rence that has been universally paid to our author's judgment. The present practice is highly improved both as to the certainty and safety of removing all kinds of intermittents, but the procedure is very different from that here directed.

Sect. I.

*The bark
how to be
given.*

34. (1) Great caution must be had not to give it too early, namely, before the disease be in some measure spontaneously abated, unless, the extreme weakness of the patient requires it to be given sooner; for the giving it too soon may render it ineffectual, and even fatal, if a sudden stop should thus be put to the vigorous fermentation raised in the blood in order to its despumation (*m*). (2) We must not direct purging, much less bleeding, in order to carry off a part of the febrile matter, and render the bark more effectual; for they both weaken the tone of the parts, whence the disease returns so much the more expeditiously and certainly, after the virtue of the bark is spent. It were better, in my opinion, to impregnate the blood with this medicine by degrees, and at distant intervals from the fit, rather than endeavour to stop it at once, just upon its coming; for by this means the bark has more time to produce its full effect in, and, besides, the mischief is avoided that might happen by putting a sudden and unseasonable stoppage to the fit, just approaching. (3) The bark must be repeated at short intervals, that the virtue of the former dose may not be entirely gone off, before another be given; and by repeating it frequently the disease will, at length, be perfectly cur'd.

35. These reasons led me to prefer the following method of giving the bark.

*The elec-
tuary.*

*Take of the Peruvian bark, one ounce; conserve of roses, two ounces; make an electuary thereof; take the quantity of a large nutmeg, every morning and night, on the intermediate, or well days, till the whole be taken; and let it be repeated thrice, interposing a fortnight between each time (*n*).*

36. The

(*m*) The ill consequences attending the over hasty use of the bark in this case should seem owing to the roughness and astringency it is manifestly possess'd of; whereby the febrile matter is prevented from passing off, and perhaps driven back upon some of the noble internal parts: whence the intermittent is either changed to a continued fever, that generally proves of a bad kind, or otherwise to some obstinate chronic disorder; as a dropsy, consumption, scirrhus liver, jaundice, cachexy, &c. And in reality, upon this account, unless proper evacuations can be made before giving it, 'tis much safer to wait, if the disease will give leave, till its violence be abated by a few fits, and a portion of the morbid matter discharged; which is partly agreeable to our author's sentiments on this head.

(*n*) The simplicity and inelegance of this electuary are not sufficient

36. The bark might perhaps prove as successful in *vernal* and *autumnal tertians* as it does in *quartans*: but, indeed to speak frankly upon this occasion, in children and young persons, affected with either of these diseases, I think it best to forbear the use of medicines, and make no change as to air and diet; having hitherto found no inconveniency in leaving the cure wholly to nature, at which I have often been surpris'd, especially in infants; for the depuration of the blood being finish'd, these distempers go off spontaneously. But contrariwise, if (1) a slender diet be directed, or (2) purgatives be now and then given, as they generally are under pretext of opening obstructions, and discharging the humours lodg'd in the first passages, or (3) especially, if bleeding be used in an epidemic constitution, the disease

Chap. 5.
Medicines
not needful
in children
and young
persons.

cient reasons to reject it, tho' the method may upon the whole be liable to exception; and therefore I shall here subjoin some experienced rules and cautions, relating to the method of giving the bark,

(1) The general rule that forbids exhibiting the bark, whilst the urine remains high-coloured, and lets fall no latentitious sediment, will admit of an exception, frequent experience having shewn that if the habit be not over-charg'd with vitiated juices, the *viscera* be sound, and manifest no signs of internal inflammation, this valuable medicine, preceded by proper evacuations, may be given with all desirable advantage and safety, even to the aged, debilitated, and young persons of a lively florid constitution. (2) When the heat and other symptoms thereon depending are violent, nitre is advantageously mix'd with it. (3) If it takes downwards, *liquid laudanum* may be given after each dose, or it may be made up into an electuary with a due quantity of *diascordium*. (4) It may be mixt with different ingredients, and adapted by this means to all the complications of intermittents. (5) The palate should be consulted with respect to the choice of a proper form; but where it can be taken in powder, it generally proves more effectual than in decoction, infusion, tincture, or extract. (6) The dose should be moderate, and often repeated. (7) It must never be given immediately before the coming, nor in the height or declension of the fit. (8) During a course of the bark, moderate exercise will do very considerable service; but all kinds of medicines must be refrain'd that have a great tendency to agitate the juices, and disturb the circulation. For efficacious and elegant preparations of the bark recourse may be had to Dr *Sham's practice of physick*, vol. I. p. 140, 4th ed. and his *chemical lectures* p. 231.

De Gorter tells us that an ounce of the bark has been taken at once, without occasioning any inconvenience, and yet has entirely remov'd a *quartan*; and adds that he has known some instances where the patients have taken the whole quantity directed, at a time; from whose imprudence he learnt that 'tis not less to be so timorous in determining the dose. See his *Med. compend. tom. 1. p. 274.*

Sect. 1. ease will be considerably prolong'd, and also accompanied with several dangerous symptoms.

The aged
require
cordials,
and a
strengthen-
ing diet,

37. But in aged persons, affected either with *autumnal tertians*, or *quartans*, there is danger of these diseases becoming not only obstinate, but mortal; for which reason, if the bark here, and every other method prove ineffectual to a cure, nature must at least be supplied with such helps, as may enable her to finish her work. For doubtless, where the constitution is nearly worn out, unless the fermentation be kept up by cordials, a strengthening diet, wormwood wine, and the like, the patient will be debilitated by uncertain and ineffectual fits, and the disease continue, till some violent fit comes, which, on account of his extreme weakness, may prove destructive to him during the shaking. And this frequently happens in aged persons, who have been debilitated by a long course of purgatives; whereas they might have been supported, at least for a time, by some sufficiently strong cordial.

A change
of air.

38. When the time requir'd for the despumation of the blood is finish'd, or even earlier, persons in years must remove to a very different air, or, which is better, to a warmer climate, or at least leave the place where they were first seiz'd with the disease. It is very surprizing how much a change of air conduces to a perfect cure at this juncture, but before it is not only ineffectual, but improper. For tho' a person were to go to a warm *Southern* climate, the blood notwithstanding, being once reduc'd to a morbid state, must necessarily finish its depuration, which would vainly be expected from breathing a new and unusual air, till the motion thereof be amended, and so far perfected, as to be capable of recovering a healthful state. Such a remarkable change of air, therefore, is to be deferr'd till the distemper is capable of being put off; so that in a *quartan*, for instance, which arose in *autumn*, it should be deferr'd till the beginning of *February* (2).

39. But

(2) The present practice can abundantly furnish us with instances of the recovery of such patients by a removal to a warmer air, when the disease had baffled all other remedies; and perhaps it will be generally allowed to be needless, if not dangerous to defer it, till the constitution be nearly worn out; which may probably be the case, before the distemper be so far spent, as our author seems to judge requisite, in order to make an attempt of this kind with safety and certainty.

39. But if the patient does not care to change the air, or cannot conveniently, he should at this juncture make use of a medicine of sufficient strength at once to promote, and, if possible, finish the languishing fermentation: for which I purpose would advise the following.

Chap. 5.

If not, the fermentation to be quicken'd.

Take of the electuary of the egg, or Venice treacle, one dram and a half; aqua cœlestis, or common aqua vitæ, two ounces: make a mixture to be given two hours before the fit.

The mixture.

I have directed this with success at the declension of the disease; but I acknowledge that an earlier use of such heating medicines either doubles the fit, or changes the disease to a continued fever; which has also been observed by *Galen*. They may be given with caution to young persons in this disease, but are unsafe in children (p).


But not till the declension of the disease.

40. Before I quit this subject, I must admonish the reader, that what has been said concerning the continuance of *autumnal intermittents*, and the time requir'd for the despumation of the blood, is to be understood of that alone which nature usually finishes by means only of the common medicines in use. We have not treated of these matters with intent to discourage able and diligent physicians from searching after better methods of cure, and more effectual remedies; in reality so far am I from this, that I do not despair myself of discovering, in time, such a method, or remedy.

41. After the disease is gone off the patient must be carefully purg'd; for a number of diseases proceed from a neglect of purging after autumnal intermittents: and I am astonish'd that this has been so little taken notice of, and guarded against by physicians. For whenever either of these diseases affected persons in the decline of life, and purging was neglected, I could certainly foretel,

Purging necessary after it is gone off.

(p) It would now perhaps be thought rash, imprudent and somewhat favouring of empiricism to venture upon so fiery an alexipharmic, unless in some extraordinary case. For when the tone of the solids is already greatly relax'd, and the juices much impoverish'd, fatal effects may justly be apprehended from the use of such a remedy. But in the present improv'd state of physic we are happily supplied with much more gentle, yet as effectual medicines in this case; and the rough and violent methods of cure stand universally condemned and proscribed.

Sect. 1.  tel, that they would be seiz'd with some dangerous disease afterwards, tho' they themselves had not any suspicion of it, on account of their seemingly perfect recovery.

But not before. 42. But purging must absolutely be refrained, till the disease is quite gone off; because tho' the *natural parts*, or intestines, may, by this means, seem to be cleansed from the foul humours left behind, yet a fresh quantity of matter will soon be supplied by the fever, returning a-new, occasioned by the violence of the cathartic, and the disturbance of the juices; whence the disease will be render'd more obstinate. And daily experience shews the mischief of attempting the cure at the declension of the distemper, by removing obstructions, and evacuating the melancholy humour, which is the common reputed cause thereof; for, in effect, of whatever nature the humour be that is evacuated, purging manifestly renders the fever more inveterate.

Method of purging. 43. It is therefore become a standing rule with me, never to give a purge till both the perceptible fits are entirely gone off, and also the alteration, how slight soever it be, which is perceiv'd on those days, when the fit usually came; and even not till a month after the cure. And at this time I prescribe a common laxative potion, ordering it to be repeated once a week, during two or three months; and a quieting draught to be taken in the evening after the operation, to prevent the return of the fit which might otherwise happen from the disturbance rais'd even by the mildest cathartics (*q*).

The reasons for it. 44. I direct purging at these considerable intervals, that a relapse may not be apprehended; which indeed might easily be caused by the too frequent agitation of the blood and juices (*r*): but when there is no further danger from this quarter, I prescribe the following apozem.

Take

(*q*) Our author here judiciously cautions against exhibiting purgatives too early, whereby a relapse is frequently endangered. But it is not always necessary to purge, and is sometimes detrimental; and tho' there may be cases where a purgative may be repeated twice or thrice with advantage, yet there are very few instances where a long course of purging may not prove very pernicious: so that this ought not to be esteem'd a general rule.

(*r*) A *dropsy* is produced by frequent purgation, especially in a *semi-tertian* and a *quartan*: and this species of a dropsy is increas'd by purgatives, and either causes a return of the intermittent, or changes it into a continued fever of a bad kind; but the
body

Take of Monk's rhubarb, two ounces; the roots of Asparagus, butcher's broom, parsley, and polypody of the oak, of each one ounce; of the inner bark of ash, and of tamarisk, each half an ounce; the leaves of agrimony, spleenwort and maiden-hair, each one handful; senna cleans'd from its stalks, and moistened with three ounces of white wine, an ounce and half; dodder of thyme, half an ounce; troches of agaric, two drams; fennel seeds, four scruples: boil them together in a sufficient quantity of water to a pint and half; adding towards the end three ounces of the juice of Sevil oranges; lastly, strain off the decoction, and mix therewith of the syrup of succory with rhubarb, and of the magisterial syrup for melancholy, of each one ounce and a half. Take half a pint of it every morning for three days successively, and let it be repeated as there shall be occasion.

45. I proceed now to enumerate the symptoms which accompany intermittents in their decline; and here it must be noted that vernal ones have very few compar'd with autumnal; because they are neither so lasting, nor arise from such earthy and malignant juices.

Vernal intermittents have fewer symptoms than autumnal ones.

46. The principal of these symptoms, which frequently happens, is a *dropsey*; wherein the legs first swell, and then the *abdomen*: it arises from a great paucity of spirits, occasioned by frequent fermentations of the blood, in consequence of the length of the disease, especially in the aged; so that being extremely impoverish'd, it can no longer assimilate the juices taken in with the aliment, a crude and indigested quantity whereof is, at length, thrown upon the legs; and these being so distended as to admit no more, the remainder is discharg'd into the *abdomen*, and thus forms a *true dropsey*. But this disorder rarely happens in young persons, unless it has been imprudently occasioned by purging often, during the course of the intermittent.

A dropsey, a capital symptom in the latter.

47. A

body being strengthened by astringent, warm, stomachic, and antiscorbutic medicines, expells the water spontaneously.

When the intermittent is remov'd nothing farther is to be done, only the patient should continue to take half a dram of the bark, every day for a month, or an ounce in two weeks after; and thus there will be no fear of a relapse. If a vomit or purge be given soon after the cure, the disease generally returns: but as at this time the appetite is usually too quick and sharp, care must be had not to overcharge the stomach. *De Gorter, Med. compend. tom. 1.*

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How to be treated.

47. A recent *dropſy* from the abovementioned cauſe is eaſily cur'd by aperients and purgatives; neither am I anxious about the conſequences when it proceeds from this cauſe, for I then conceive great hopes of ſucceſs: and, in reality, have recovered ſeveral by the uſe of the apo-
zem above ſet down, (44) even without the admixture of any thing more particularly appropriated to the dropſy. But I have obſerved that 'tis a fruitleſs attempt to endeavour to remove it, whiſt the intermittent continues, and ſerves to render the diſeaſe more obſtinate; for which reaſon we muſt wait till that is gone off, and then the cure of the dropſy may be ſucceſsfully undertaken (s).

Infuſions proper in this caſe.

48. But if the diſtemper be ſo urgent as not to admit of this delay, the cure muſt be attempted by infuſions of *horſe-radish root*, *the tops of wormwood*, and *the leſſer centaury*, *juniper berries*, *broom aſhes*, &c. in wine; which not only give relief by ſupplying the blood with freſh ſpirits, but likewise ſeaſonably aſſiſt languid nature upon the point of overcoming the diſeaſe.

The rickets, and the method of curing them deſcribed.

49. Children ſometimes become hec-*tic* after *continu'd* or *intermittent autumnal* fevers. The *abdomen*, in this caſe, ſwells and grows hard, a cough alſo and other conſumptive ſymptoms frequently ariſe, which manifeſtly reſemble the rickets: ſuch patients muſt be treated in the following manner. Let the purging potion, above ſet down (t), be prepared; and a ſpoonful or two of it given, according to the age of the child, every morning, for nine days, omitting a day or two occaſionally, if neceſſary; care being had at the ſame time that the purgative be ſo doſed, as to give but five or ſix motions a day. When the courſe of purging is over, let the *abdomen* be anointed with an opening liniment for ſome days; for which purpoſe I generally direct the following.

A liniment for anointing the abdomen.

Take of oil of lillies and tamarisk, each two ounces; the juice of briony roots and ſmallage, of each one ounce; boil them together till the aqueous moiſture is exhal'd; then add thereto of the ointment of marſhmallows, and

(s) In this caſe all the water has been frequently diſcharg'd in a ſhort time ſpontaneouſly by the conduits of urine, without the help of any medicine. *De Gorter, Med. compend. tom. 1. p. 152.*

(t) See Sect. I. Chap. IV. Par. 35.

and fresh butter, of each an ounce; of gum-ammoniac, *Chap. 5.*
dissolv'd in a proper quantity of vinegar, half an
ounce; of yellow wax, enough to make the whole into
a liniment.

By this method I have cured several children of the true
rickets. But the caution, before inculcated, concern-
ing purging, must also be observed here (u).

50. 'Tis worth observing that when children have
been long afflicted with autumnal intermittents, there
is no hopes of their recovery, till the *abdomen* (especially
that part of it near the spleen) swells and grows hard;
the distemper abating in the same degree, as this sym-
ptom manifests itself. Nor can we, perhaps, more cer-
tainly foretel that the intermittent will go off in a
short time, than by carefully attending to the swelling of
the *abdomen*, in children, and to that of the legs, which
sometimes happens in grown persons.

*The swelling
of the abdo-
men in
children,
and of the
legs in
grown per-
sons, a good
sign.*

51. The swelling of the *abdomen* which happens in
children after intermittents, in those years wherein the
constitution of the air has a tendency to produce autumnal
intermittents *epidemically*, appears to the touch,
as if the *viscera* contained matter harden'd to a *scirrhus*;
whereas that which comes in other years yields to the
touch, as if the *hypochondria* were only distended by
wind. Hence 'tis worth notice that the true rickets
rarely happen, except in those years wherein *autumnal
intermittents* prevail.

*The true
rickets
when most
common.*

52. A pain and inflammation of the tonsils, after con-
tinued or intermittent fevers, attended first with a dif-
ficulty of deglutition, then a hoarseness, hollow eyes,
and *hippocratic* face, certainly foreshew imminent death,
no hopes of recovery remaining. And I have generally
observ'd that profuse evacuations, in patients almost
worn out by the violence of the disease, together with
the long continuance thereof, have conspired to produce
these fatal symptoms.

*Pain and
inflamma-
tion of the
tonsils, &c.
bad signs.*

53. There are several other symptoms, which usually
follow these diseases, from a total neglect of purging, or an
improper use of it; but I shall not mention them here,
as they all require nearly the same method of cure, *viz.*
the purging off the sediment deposited by the preceding
effervescence, which sediment, by its continuance in the
body, has given rise to these bad symptoms. It may

E

however

(u) See above, *Par.* 47.

Sect. 1.

*A peculiar
kind of
madness,
how to be
treated.*

however be proper here to take notice of a considerable symptom, which neither yields to purging, nor any other evacuation, and especially not to bleeding, but is render'd more violent and fixt thereby. This is a peculiar *madness*, differing from all other kinds, which sometimes follows upon inveterate intermittents, especially of the quartan kind; here the ordinary method of cure proves ineffectual, the disorder, after copious evacuations, terminating in a kind of folly for life.

*Mischief of
repeated
bleeding
and purging
here.*

54. I have often been surpriz'd to find no mention made of this disorder by practical writers, considering that I have frequently met with it; and whereas the other kinds of madnes usually yield to plentiful bleeding and purging, this will bear neither: for when the patient is upon the point of recovery, if a glyster only of milk and sugar be given, it immediately returns; and if a course of bleeding and purging be used, these evacuations may indeed abate the violence of the disease, but will certainly render the patient an idiot, and the disease incurable. Nor will this seem strange, if it be considered that the other kinds of madnes proceed from the too great spirituousness and richness of the blood, whereas this arises from its depressed state, and (if the expression may be allowed me) vapiditv, which the fever has occasioned by continuing the fermentation too long, whence the spirits are become utterly unable to perform the animal functions.

*The process
of the cure.*

55. I attempt the cure in the following manner: I give a large dose of some strong cordial three times a day; for instance, of *VENICE treacle* (x) *the electuary of the egg*, *the countess of KENT's powder*, *Sir WALTER RAWLEIGH's powder*, or the like, dissolv'd in *plague or treacle water*, or any other cordial water. Cordials may also be given in other forms. During the course of the cure a slender, but restorative diet, and generous liquors must likewise be used; and the patient should keep his room, and lie much in bed. This regimen may occasion a costiveness, whence a fever may be apprehended, especially on account of the heating medicines here taken: but there is in reality no danger of it, because the
spirits.

(x) *Venice treacle* is indeed a warm opiate, but I much doubt if it deserves to be entitled a cordial in this case, as the opium it contains should seem perhaps to relax and debilitate, more than the other ingredients will strengthen and raise.

Spirits are so far wasted by the preceding disease, as not to be able to raise a new fever. In a few weeks the disorder will abate by degrees, and then the cordials may be omitted for a few days; but the restorative method of living must be still continued, and the cordials repeated, after a short interval, and the use of them continued till the perfect recovery of the patient.

56. This method has sometimes cured a *madness*, that did not succeed upon *intermittents*, particularly in cold and weak constitutions. I was called last year to *Salisbury* to consult with my friend Dr. *Thomas* for a lady, who was disturbed in her senses, and she was recovered by it, tho' she was then in her pregnancy.

*Successful
in another
species of
madness.*

57. But the common kind of *madness*, wherewith strong and lively persons are usually seiz'd, without a preceding fever, is of another kind, and must therefore be treated in a quite different manner, with respect to evacuations; tho' even in this kind also such medicines should be given as strengthen the brain and animal spirits. I shall here subjoin the cure thereof, tho' it does not properly belong to this place, in order to prevent mistakes from the similitude of the two diseases.

58. In young persons of a sanguine constitution let eight or nine ounces of blood be taken away from the arm; and repeat the operation twice or thrice, at the distance of three days; and then bleed once in the jugular: more frequent bleeding rather renders the patient an idiot than cures him (*y*). Afterwards give half a


*The common
kind of
madness
how to be
treated.*

E 2

dram,

(*y*) This appears too limited a direction for bleeding, which in all cases should be prudently suited to the circumstances and exigencies of the disease. The kind of madnes here described is rarely found to yield, especially in young and sanguine persons, without bleeding both more frequently and plentifully, along with brisk vomits, repeated, as there is occasion, and the use of cold bathing; neither of which latter helps our author has mentioned. *Camphire* has been recommended in a large dose, (*viz.* half a dram, morning and night) in maniacal disorders of the bold kind by Dr. *Kinneir*, who tells us that the practice has been attended with success. See *Abridg. of the Phil. Transact.* published in 1734. Strong opiates, after proper evacuations, may be sometimes used with advantage.

Hoffman recommends warm bathing in *maniac disorders*, in the following terms. "It is not from reason alone, (says he) but from a long course of experience, that we assert the excellence of this remedy in these cases; for we have seen numerous instances, both of inveterate melancholy, and raving madnes, happily cured by
its

Sect. I.  dram, or two scruples of *pil. ex duobus*, according as it operates, upon a set day, and repeat it once a week, precisely upon the same day of the week, till the disorder goes off. By this method the humours, which in this disease usually fly up to the head, will gradually be diverted to the lower parts.

59. On the intermediate days, during the course of the cure, give the following electuary, or some other equally effectual medicine.

*A cordial
electuary.*

Take of the conserve of Roman wormwood, of rosemary, and of Venice treacle, each one ounce; of the conserve of orange-peel, of candied angelica and nutmeg, each half an ounce; syrup of cloves, enough to make the whole into an electuary; of which let the quantity of a nutmeg be taken twice a day, drinking after each dose a small draught of canary, wherein cowslip flowers have been infused cold.

60. The continued fever and intermittents above describ'd were almost the only prevailing epidemic diseases, during the constitution of the years 1661, 1662, 1663, and 1664. How many years they might have prevail'd before I cannot say; but this I certainly know, that from 1664 to 1667 they rarely appeared at London.

*Particulars
concerning
the small-
pox of this
constitution.*

61. I should here also treat of the *small-pox* of that constitution; since, as I before observed (z), they vary considerably, according to the different constitutions wherein they appear: but as I did not sufficiently attend to them at that time, I shall only mention this peculiarity of them, *viz.* that in those years they prevail'd much in the beginning of *May*, but went off, upon the coming of the *autumnal epidemics*, namely the *continued* and *intermittent fevers*. The tops of the eruptions had
small

its means, after the use of bleeding, diluting medicines, and medicines consisting chiefly of nitre. And this kind of cure I have recommended to many foreign physicians, who, as well as myself, find it highly serviceable and beneficial. Whence I have often wonder'd that this method of cure for madness should be so much neglected in our time; whilst bathing has, from the earliest ages, been employ'd for this purpose: insomuch that the antient physicians had recourse to it as a thing they entirely depended upon." See *New experiments &c. upon mineral waters*, by Dr Frid. Hoffman, translated by Dr Shaw. p. 188. Par. 16.
(z) See Sect. I. Chap. II. Par. 12, 16.

small pits for the most part, about the size of the head of a small pin, and in the distinct kind the *eighth day* was attended with most danger; at which time the sweat or moisture, which had hitherto continued, went off suddenly, and the external parts became dry, neither could the sweat be raised again by any kind of cordials; whence arose a *delirium*, great restlessness, pain and sickness, a frequency of making urine in small quantities; and the patient died in a few hours very unexpectedly.

SECT. II. CHAP. I.

The epidemic constitution of the years 1665 and 1666, at London.

1. **T**HE preceding winter having been extremely cold, and accompanied with a continued frost till spring, which went off suddenly towards the end of *March*, that is, in the beginning of the year 1665, according to the *English* computation of time, there then arose *peripneumonies*, *pleurisies*, *quinsies*, and other inflammatory disorders, which quickly made great devastation; and with these there also appear'd a continued *epidemic fever*, of a very different nature from those of the foregoing constitution, which were very rare in this season. For (1) the pain in the head here was more violent; (2) the vomitings more copious; (3) and the looseness, which was generally prevented in the former fevers by a vomit, was increased thereby in the present fever, and yet the vomiting continued; (4) the external parts were dry, as in the fevers of the preceding constitution; but after bleeding, especially, a sweat was easily procured, whereby the fever was soon abated; whereas in those fevers it could not be attempted with safety till the thirteenth or fourteenth day, nor indeed could it easily be raised; (5) the blood taken away in this fever resembled that of persons in pleuritic and rheumatic disorders, but was less fizy.

The diseases of this constitution enumerated.

Sect. 2.

*The plague,
and its pro-
gress de-
scrib'd.*

2. These were the diagnostic signs of this disease at its rise; but towards the middle of the year, the *plague* appeared, accompanied with several of its peculiar symptoms; as *carbuncles*, *buboes*, &c. and spreading more universally every day, came to its height about the *autumnal equinox*, at which time it destroy'd near eight thousand persons in one week, tho' at least two thirds of the inhabitants had retired into the country, to avoid the infection. Afterwards it began to abate, and upon the coming of winter was so far conquered, as to seize very few during that season and the following spring, when it went off entirely: whereas the fever prevail'd, (tho' not so epidemically) all the subsequent year, and continued to the spring of the year 1667. I intend now to treat of this *fever*, and the *plague*.

C H A P. II.

Of the pestilential Fever, and Plague of 1665 and 1666.

*Some fevers
falsely e-
steem'd ma-
lignant.*

I. I Have already cursorily observ'd that some fevers are usually rank'd amongst those of the malignant kind (a), whereas the great violence of their symptoms, which seems to countenance this opinion, does not proceed from the contagious nature of the disease, but from unskilful treatment. For when the solution thereof, in the manner appointed by nature, is not sufficiently attended to, and a different method unadvisedly begun, the animal œconomy is eminently disturb'd thereby, and the disease, contrary to its nature, accompanied with irregular symptoms, so that it seems of a different kind. But a true *malignant* fever rarely happens (b), and

*A true ma-
lignant fe-
ver rare.*

(a) See Sect. I. Chap. II. Par. 13.

(b) The unskilful are frequently deceiv'd by imagining a kind of malignity in diseases, and this error proceeds from a want of sufficient enquiry into the antecedent causes, and inattention to the symptoms and entire state of the disease; and hence arise great mistakes in practice. 'Tis not yet universally agreed on what is meant by the term *malignity*, whence 'tis difficult to form so clear and just an idea of it, as may enable us to apply it with certainty to some fevers, and authorise the method of cure thence deriv'd. The fevers which are generally call'd malignant, upon examining their various symptoms, seem to proceed from a *coagulation*, or *diffolu-*

and totally differs from other kinds of fevers, that are so called from the irregularity of the symptoms, being indeed of the same species with the plague, only 'tis not so violent: and on this account I intend to treat of the cause and cure of both in the same chapter.

Chap. 2.

2. That the air obtains a secret disposition, or temperature, productive of different diseases at different times, will be apparent to such as shall only consider that the very same disease, in one season, proves epidemic, and destroys great numbers, and in another seizes but few persons, without proceeding further: as is manifest in the *small-pox*, and more particularly in the *plague*, our present subject.

The air produces diseases by a secret disposition;

3. But of what nature the constitution of the air is, which gives rise to these diseases, I am as ignorant, as of several other things, about which philosophers cannot agree(c): whatever it be, we ought at least to thank providence that pestilential constitutions of the air, productive of that great destroyer, the *plague*, happen much more rarely than such as produce other less fatal distempers: for the *plague* seldom rages violently in *England*, above once, in thirty or forty years(d). A few persons in different places die of this disease for some years after a great *plague*, and it usually goes off by degrees; because the pestilential constitution of the air continues still in part, and is not yet entirely chang'd

Not easily discoverable.


E 4

to

dissolution of the juices, and accordingly require a different treatment; *volatile and attenuating medicines* being proper in the former, and *mild acids, cooling emulsions, agglutinants, harts-horn jelly, &c.* in the latter. And as these medicines act by manifest qualities, it may reasonably be inferr'd, that the fevers also arise from a manifest cause: so that the mistaken notion of malignity falls to the ground. The fevers that are generally esteem'd of a truly malignant kind proceed from some particular contagious qualities of the air, not cognizable perhaps by the senses, from corrupt and putrified aliment, the bite of venomous animals, &c. but these are not near so common as is usually imagined.

(c) There are many phænomena that exceed our narrow comprehension, which are not therefore to be condemn'd; but where the nature of the cause cannot be known from reasoning, the visible effect should always be carefully noted, in order from thence to form safe rules for practice.

(d) It is a common opinion, and propagated by authors of great name, that we are usually *visited* with the plague once in thirty or forty years; but this is a mere fancy, without any foundation either in reason or experience: and therefore people ought to be deliver'd from the subjection to such vain fears. See a discourse concerning Pestilential contagion, by Dr Mead.

Seet. 2.  to a healthful state; and therefore this should be esteem'd only as the gleanings of a former harvest. And to the same cause it is owing that the fevers which prevail for a year or two after a severe plague, are generally pestilential; and tho' some have not the genuine signs of the plague, yet they are much of the same nature, and require a similar treatment, as shall hereafter be shewn.

Causes productive of the plague.

4. But besides the constitution of the air, or more general cause, another previous circumstance is required to produce the plague, *viz.* the receiving the *effluvia*, or *seminium*, from an infected person, either immediately by contact, or mediately by pestilential matter, convey'd from some other place. For when this happens in such a constitution, as we have mention'd above (*e*), the whole air of that tract of land is quickly infected with the plague, by means of the breath of the diseas'd, and the steam or vapour arising from the dead bodies, so as to render the way of propagating this dreadful disease by infection entirely unnecessary: for tho' a person should cautiously keep at a distance from the infected, yet the air, received in by breathing, will of itself be sufficient to infect him, provided his juices be disposed to receive the infection.

Time of its rise, and its progress.

5. Tho' this distemper, when it is only *sporadic*, seizes some few persons without any regard to the season, the infection being, as it were, communicated from one to another; yet when it is joined with an epidemic constitution of the air, it arises in the intermediate season between spring and summer; this season being the fittest to produce a disease, whose essence chiefly consists in an inflammatory state of the juices, as we shall afterwards shew. Again, this disease has its times of increase and declension, like other kinds of natural things. It begins at the time above set down, as the year advances it spreads, and as that declines it abates, till, at length, winter introduces a disposition of the air contrary to it.

If not influenced by the changes of the seasons would prove exceedingly destructive.

6. For if the changes of the seasons should exercise no power over this disease, the true pestilential *seminium*, unconquerable by any alteration of the air, would be convey'd from one to another in a continued succession; so that when once it should have gain'd entrance into a populous city, it would not cease till the inha-

(*e*) See *Par.* 3.

inhabitants were all destroyed. That the contrary, however, has often happen'd, appears from the number of the dead, which rose to some thousands in one week in *August*, but decreased very much, and was inconsiderable towards the end of *November*. I must acknowledge however, and some authors have affirm'd, that the *plague* also appears at other seasons of the year; but this seldom happens, and it is then not very violent.

7. In the mean time I much doubt if the disposition of the air, tho' it be pestilential, is of itself able to produce the *plague*; but that, being always predominant in some place or other, it is convey'd to others by pestilential matter, or the coming of an infected person from some place where the plague prevails; and that even there it is not epidemic, unless the constitution of the air favours it. Otherwise I cannot conceive how it should happen that in the same climate, at a time the *plague* rages violently in one town, a neighbouring one should totally escape it, by strictly forbidding all intercourse with the infected place: an instance of which we had some few years ago, when the plague raged with extreme violence in most parts of *Italy*, and yet the Grand Duke by his vigilance and prudence entirely prevented its entering the borders of *Tuscany*.

A pestilential air unable of itself to breed the plague.

8. The plague usually begins with chills and shivering, like the fit of an intermittent; soon after, a violent vomiting, a painful oppression at the breast, and a burning fever, accompanied with its common symptoms succeed, and continue to afflict the patient, till the disease proves mortal, or the kindly eruption of a *bubo*, or *parotis*, discharges the morbid matter, and frees him from danger. Sometimes the disease, tho' rarely, comes without a fever having preceded it, and proves suddenly mortal; the purple spots, which denote immediate death, coming out, even whilst the persons are abroad upon their business. But 'tis worth observing that this only happens in the beginning of a very fatal *plague*, and never in its decline, or in those years wherein it is not *epidemic*. Again, sometimes swellings appear, without having been preceded either by a fever, or any other considerable symptom; but I conceive that some slight and obscure shivering always goes before: such as are seiz'd in this favourable manner may safely

The symptoms of the plague.

Sect. 2. safely follow their business, as if they were in health, and need not observe any particular way of living.

The essence of this and other diseases inexplicable.

9. As to the essence of this disease, I do not undertake to define it with exactness (*f*); and whoever should require me to shew what it is that constitutes any particular species of a disease, might perhaps seem as impertinent, in the opinion of the thinking part of mankind, as I should appear, were I to put the same question to him, with respect to a horse, for instance, amongst animals, or betony, amongst plants. For nature produces all things by fixt laws, and a method of operation known only to herself, whilst their essence and constitutive differences lie hid in the greatest obscurity. Hence every species of diseases, as well as of animals and vegetables, is endowed with certain peculiar and univocal properties, resulting from its essence. However, an enquiry into the manner of curing diseases may proceed very successfully, tho' we are ignorant of their causes, because the cure of most diseases is effected not by this kind of knowledge, but by a suitable and experienc'd method.

The cause of the plague.

10. But to return to our subject: as the rise of all similar diseases is usually deduc'd by us, in our present ignorance of things, from some depravation of first or second qualities, it is probable that the plague is a peculiar fever of its own kind (*g*), arising from an inflammation

(*f*) The specific nature of the pestilential *miasm*, (See the term explain'd in *Quincy's Physical dictionary*,) wherein the essence of the plague consists, is absolutely undeterminable *a priori*, as it does not come under the notice of the senses; so that all the knowledge of it we are to expect is only to be had from its effects, whence it should seem to be partly of a putrid, sulphureous, fermentative nature, and partly of a very acrimonious and caustic, but more of an alkaline than an acid nature.

(*g*) "The plague, or pestilential fever, is defin'd by *Hoffman*,
"the most acute of all the species of fevers, proceeding from a
"contagious or poisonous *seminium*, or *miasm*, usually brought
"from the *eastern* parts, and proving mortal, unless the poison be
"soon expell'd by buboes and carbuncles, by the vigour of the
"vital motions or powers."

It differs from other malignant, contagious and eruptive fevers in the following particulars. (1) It is the most acute of them all, and sometimes proves mortal the first or second day; (2) in our climate 'tis neither *epidemic* nor *sporadic*, but only caus'd by contagion brought from infected places; (3) It does not go off, like other putrid and malignant fevers, by a copious sweat, a looseness, &c. but is terminated *critically* by humors that come to
sup-

mation of the spirituous particles of the blood, which, by reason of their fineness and subtlety, seem chiefly dispos'd to receive it. When it is possessed of the highest degree of subtlety, it suddenly dissipates the natural heat, and destroys the patient without previous notice; as is manifest in the beginning and height of an epidemic constitution. The bodies of such as die in this violent manner are totally covered with purple spots, the fibres of the blood being broke, and its texture wholly dissolved, by the violence of the intestine struggle.

Chap. 2.

Whence it
occasions
sudden
death;

11. Now it is owing to the exceeding subtlety of the contagious matter, that this fatal catastrophe happens without a febrile ebullition, or the presence of any other symptom; quite otherwise than when the morbid cause is not so subtle, and the instrument that endangers life more obtuse. To shew the difference by a familiar example. Let a needle or any other sharp-pointed instrument be forcibly thrust under a pillow, and instead of raising it up, as an obtuse instrument would do, it will go through it (b).

12. But sudden death rarely happens, and only, as before intimated, towards the beginning, or increase of the plague (i). For this disease generally begins, like other fevers, with chillness and shivering, which are soon succeeded by heat, and this continues till the inflamed parts of the blood are expelled by nature to the emunc-

And when
chiefly.

suppuration; (4) the pestilential *seminium* readily adheres to spongy and porous matters, and is conveyable thus to a great distance, without any loss of its pernicious quality; and (5) the plague has this farther remarkable particularity, that its progress is check'd by cold; whence it seldom, if at all, prevails in a cold season, and in cold countries; but, on the contrary, rages violently and frequently in a hot season, and in warm climates.

(b) The simile here us'd is very inadequate, and not at all illustrative of the author's reasoning; and many such occur in his writings. It must be acknowledg'd, this method of illustration, when rightly applied, lets in great light to the argument; but if otherwise, nothing is more fallacious and inconclusive. False similes and erroneous analogies always render matters more obscure, and create great confusion and perplexity in the mind. With respect to similes in particular, let it be remember'd that, to be perfectly conclusive, the similitude should only be carried on between such things as fall under the same *genus*; as between animals and animals, plants and plants, minerals and minerals; and so of the rest.

(i) See above, *Par.* 8.

Sect. 2. *emunctories*, and there suppurated in the manner of common *phlegmons*. But if the inflammation be less considerable, it usually generates such fevers as are commonly called *pestilential*, as it frequently happens at the end of a *pestilential constitution*, and perhaps even a year or two afterwards, till that species of fevers becomes extinct.

The erysipelas nearly resembles the plague.

13. In my judgment, the inflammation which the *Latins* call *ignis sacer*, and we *St Anthony's fire*, or an *erysipelas*, is not unlike the plague. For skilful physicians esteem it a continued fever, arising from the corruption and inflammation of the thinner part of the blood, which nature, to free herself from it, throws out upon some external part of the body, where a tumor, or rather (for frequently no very remarkable tumor is perceived) a large red spreading spot, usually called a *rose*, arises; but the fever is *critically* terminated in a day or two by the tumor, or eruption, and sometimes is accompanied with a pain in the glands of the arm-pit, or groin, as in the *plague*.

Proofs thereof.

14. Moreover, the *erysipelas* begins nearly in the same manner as the *plague*, viz. with a shivering, followed by a feverish heat; so that such as have never been afflicted with this disease before judge it to be the *plague*, till it manifests itself at length in the leg, or some other part. To this may be added, that some authors suspect there is a kind of malignity join'd with this disease, and accordingly place the cure of it in the use of sudorifics and alexipharmics (*k*). But the inflammation here, as soon as it has rais'd an ebullition, by means whereof the lightly torrefied particles of the blood are in a short time expell'd, goes off spontaneously, and does no farther mischief (*l*).

15. But

(*k*) *Vid. Sennert, lib. II. cap. XVI. de Febr. symptomat. contin.*

(*l*) The *Erysipelas* and *plague* nearly resemble each other in the following particulars. (1) In their leading symptoms, viz. sudden shivering, loss of strength, violent pain in the head and back, vomiting, &c. (2) the expulsion of the malignant matter to the skin, between the third and fourth day, with an abatement of the symptoms; (3) a tumor, redness, and pain being first perceiv'd in or near the groin, and thence descending to the feet; (4) in affecting the *parotides* when the head is threatened, and the glands of the arm-pit when the breast is endangered; (5) inflaming the glands of the arm-pit and breast; and (6) in the danger occasioned by the striking in of the morbid matter.

15. But the plague is much more violent than an *erysipelas*; being, by its exceeding subtlety, fitted to pass through the innermost recesses of the body like lightening, whence the spirits are suddenly dissipated, and the texture of the blood sometimes dissolv'd, before nature, oppress'd by the speedy progress of the disease, is able to raise a *feverish ebullition*, which is the common instrument she uses to expel whatever vitiates the blood.

The plague more violent than an erysipelas.

16. If my opinion, viz. that this disease arises from inflammation, appears unsatisfactory, let it be considered that the presence of a fever, and also several other particulars confirm it; as for instance (1) the colour of the blood taken away here, which plainly resembles that taken away in pleuritic and rheumatic disorders; (2) the dark livid colour of the *carbuncles*, not unlike the mark left by an actual cantery; (3) the *buboes*, which are equally dispos'd to inflammation, as other tumors of any kind, and terminate by way of abscess, as most inflammations usually do; (4) the season of the year in which an *epidemic plague* arises, seems likewise to strengthen my opinion, for at the same time, namely betwixt *Spring* and *Summer*, pleurifies, quinifies, and other inflammatory diseases usually become *epidemic*; and I never knew these more frequent than they were for some weeks preceding the beginning of the late *plague* at *London*. Neither is it at all material that the very same year, that proved fatal to so many thousands, was otherwise very mild and healthy, and that such as escap'd the plague never enjoy'd better health; and likewise that those who recovered were not subject to a cachexy, and other indispositions, usually arising from the foul remains left by preceding distempers; and farther, that *imposthumes* and *carbuncles*, tho' of the largest size, after the inflamed particles, together with the *sanies*, was discharg'd, were easily cur'd by the common surgical methods.

Caused by inflammation.

17. But here perhaps it may be asked, allowing the *plague* to be an inflammatory disease, how it happens that heating medicines, as most alexipharmics are, should be so successfully us'd, both for prevention and cure. To this I reply, that these medicines only relieve by accident, inasmuch as this depends upon their procuring sweat, whereby the inflamed particles of the blood

Alexipharmics only do service as sudorifics.

Sect. 2. blood are exhal'd and expell'd; but if they fail of raising a sweat, as it frequently happens, the blood, being more inflamed by this additional heat, soon manifests the bad effects of such kind of remedies. As to prevention, I am well aware how much the use of warm antidotes is generally commended, but with what advantage has not yet appear'd. Too free an use of wine, and the taking of other strong preservatives every day, at set hours, have occasion'd this disease in numbers of persons, who otherwise might probably have escap'd it.

18. As to the cure of these fevers, some perhaps will accuse me of presumption and imprudence for undertaking to treat thereof, as having liv'd at some distance from the town, during the greatest part of the time the late plague prevail'd, and consequently being not sufficiently furnish'd with observations relating thereto. But since some physicians of greater abilities, who courageously stay'd in town at the peril of their lives, whilst the *plague* rag'd, have yet had no inclination to publish what they have learnt by frequent observation, respecting its nature, 'tis hop'd every good man will excuse me for communicating my sentiments of it, founded on a few of my own observations.

Manner of
treating the
plague.

19. And first the indications of cure are to be considered; which must always be directed either (1) to *assist nature in expelling the disease, keeping closely to her method of procedure herein*; or (2) *distrusting the method she usually takes to overcome the intestine enemy, to substitute a different and safer method from art*. But here perhaps some may maintain that the *plague* may also be successfully enough treated by *anti-pestilential alexipharmics*, with forms of which the works of practical writers abound. But whether the assistance this kind of medicines affords should not rather be ascrib'd to their apparent virtue of raising copious sweats, whereby they at the same time open a passage for the morbid matter to escape, than to any occult quality given them by nature in order to expel the pestilential poison, admits of great dispute.

Dubious
how Alexi-
pharmics
relieve.

20. Neither is there reason to doubt of these alone, but likewise whether the alexipharmics of other diseases do not relieve by promoting some kind of evacuation, rather than by any inherent specific virtue. For instance, whoever (with respect to the venereal disease) main-

maintains that *mercury* and *sarsaparilla* are true alexipharmics for the *virus* thereof, should produce some examples, where the former has sometimes effected a cure without raising a salivation, or taking downwards, and the latter without occasioning sweat; which I conceive it will be difficult to find. But to me it seems probable that the peculiar remedy of the *plague*, and proper alexipharmic of its poison, lies yet conceal'd in the bosom of nature, and that this distemper can only be removed by mechanical methods.

21. To consider therefore the first intention above-mentioned more at large (*m*), which tends to *assist nature in expelling the morbid matter, agreeably to her own method of procedure*; it must be observ'd that in the true *plague*, when nature of herself commits no error, nor is forc'd out of the way by violent measures, she finishes the cure by an abscess in the emunctories, whence the matter is discharged; but in a *pestilential fever* the cure is performed by an universal perspiration, thro' the whole surface of the body. Hence we may learn that the method of cure must be diversified, agreeable to the different procedure which nature points out in both diseases. For if one was to endeavour to discharge the matter of the true plague by sweat, it would be opposing nature, because she attempts to do it by imposthumes: and, on the contrary, to attempt to expel the matter of a pestilential fever, otherwise than by sweat, would no way suit with the procedure and disposition of nature.

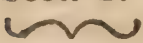
First intention of cure more fully considered.

22. We are yet unacquainted with a set of certain remedies, capable of promoting the natural expulsion of the morbid matter in the true *plague*, or, in other words, of forwarding the eruption of the imposthumes, unless it be supposed that a strengthening diet and cordials may help towards this end: but, in reality, I should greatly apprehend that the inflammation, already too violent, might be farther increas'd thereby. And indeed experience has convinc'd me that sweats are ineffectual in this case: for tho' I must acknowledge that when a profuse sweat has lasted for three or four hours, and afterwards suddenly stop'd, a swelling has appear'd, yet I conceive it is not at all owing to the sweat, because there are no signs of a swelling whilst the sweat flows

Sweating sometimes prejudicial in the plague.

most

(*m*) See above, *Par.* 20;

Sect. 2.  most plentifully, and when this is gone off, the swelling may arise, as it were, by accident, *viz.* in consequence of nature's being eas'd of a part of her load, whereby she was too much oppress'd, by means of the sweat, and of the considerable heating of the body by cordials given to raise the sweat. But the uncertainty and danger of driving out the morbid matter by imposthumes caus'd by sweat, sufficiently appears from its having proved fatal to near a third part (to speak within compass) of such as underwent this treatment. Whereas, on the contrary, several persons, in whom the swellings appeared in the regular and natural way, even whilst they were about their business, and without any perceptible disorder of any natural, vital, or animal function, recovered in a short time; unless such as happened unfortunately to fall into the hands of some unskilful practitioner, and by his advice, tho' in perfect health, endeavour'd to sweat in bed; from which time they began to grow worse, and, at length, the disease increasing, gave a melancholy proof of the perniciousness of the advice by their death.

Not certainly terminated by tumors.

23. Moreover, that the termination, or *critical* solution of the *plague* by tumors or imposthumation is both uncertain and dangerous, is manifest from a *bubo*, which sometimes rises kindly at first, and with an abatement of the symptoms, but afterwards suddenly disappears, and instead thereof purple spots succeed, which are certain signs of death; and the cause of its striking in should justly seem to be ascribed to the copious sweats, intended to promote its eruption, which exhal'd by the pores a great part of the matter that should have serv'd to fill and keep it up.

No certain method of curing it.

24. However it be, this at least evidently appears, that providence has graciously furnished us with a certain method of expelling the morbid cause in other diseases; but, in this, as a scourge of our transgressions, has given us only a precarious one: and perhaps the cause of the great destructiveness of this disease may be as well ascrib'd to this source, as to its malignity; for in the *gout* and other diseases, where there is little suspicion of malignity, the striking in of the morbid matter proves as certainly pernicious. And hence it clearly follows that the physician, who in the cure of other diseases ought to tread closely in nature's steps, must here pursue a different

rent method : and for want of attending more generally to the truth of this maxim, the *plague* has prov'd much more destructive, than it would otherwise have been. Chap. 2.

25. Since then it appears quite unsafe to follow nature in her method of curing this disease, we are in the next place to consider in what manner the second intention is to be answered, which consists in *attempting the cure by a different one*. And this I conceive is only to be effected by *bleeding*, or *sweating*. As to the former, I am well aware that 'tis generally condemn'd in this disease; but, setting aside vulgar prejudices, I shall here briefly and equitably examine the reasons usually brought against it.

Nature not to be followed here.

Bleeding, or sweating most likely to relieve.

26. And, first, I appeal to the physicians who continued in town during the late plague for an answer to this question, Whether free and repeated bleeding, before a swelling appeared, was ever observed to prove fatal to any of the infected? But 'tis not at all to be wondered at, that bleeding in a small quantity, or after the appearance of a swelling, should always be prejudicial: for in the former case the management of the cure is taken out of the hands of nature, who used all her endeavours to raise a tumor, without substituting in its stead any other sufficiently effectual method to expel the morbid matter; and, in the latter, bleeding, by attracting from the circumference to the center, occasions a directly opposite motion to that of nature, which is made from the center to the circumference. And yet nothing is more frequently urged as a capital argument, by those who condemn bleeding in general in this disease, than the mischief of bleeding in this improper manner; as may be collected from *Diemerbroeck*, and other writers of observations. But for my own part I cannot assent to their reasonings, till I know what answer they will make to the question above proposed.

Bleeding examined, and how to be us'd.

27. I am well aware that several writers of great character have judg'd bleeding proper in the plague; the principal of which are *Ludovicus Mercatus*, *Joannes Costæus*, *Nicolaus Massa*, *Ludovicus Septalius*, *Trincavellius*, *Forestus*, *Mercurialis*, *Altomarus*, *Paschalius*, *Andernachus*, *Pereda*, *Zacutus Lusitanus*, *Fonseca*, &c. But *Leonardus Botallus*, a celebrated physician of the last century, is the only one I know of who places the whole of the cure in as copious bleeding as we demand.

Commended by many eminent writers.

By Botallus in a high degree.

Sect. 2. I shall transcribe his words, that I may not be judged singular in this practice.

28. “Briefly (says our author) I conceive there is no plague wherein bleeding may not prove more beneficial than all other remedies, provided it be seasonably used, in due quantity; and am of opinion that the reason of its having sometimes done no service, proceeds either from having had recourse to it too late, or the too sparing use thereof, or to some error in both these particulars.” And a little farther he subjoins, “that if our apprehension be so considerable as to prevent our taking away enough blood, how is it possible to judge exactly what good or mischief bleeding may do in this disease? For if a disease, in which four pounds of blood are required to be taken away, in order to its cure, and yet but one is taken away, destroys the patient, it does not therefore prove destructive because bleeding was used, but because it was perform’d in an improper, and, perhaps, unseasonable manner: but malevolent and indolent men always endeavour to fix the failure on a particular remedy, not because it did really do mischief, but because they corruptly desire to have this remedy generally discredited. Or, supposing there be no malice in their attempt, they cannot be excus’d from ignorance, and following a bad custom herein; both which are doubtless pernicious, but the former much more so.” Then proceeding to confirm his reasonings from experience, he has these words a little lower: “These particulars being attended to, no sensible person can justly censure bleeding, but must rather highly esteem and commend it as a divine remedy, and practise it with assurance; which indeed I have done for these fifteen years past. And in pestilential diseases, at the siege of *Rochel*, and four years ago at *Mons* in the province of *Henault*, at *Paris* for these two years, and the preceding year at *Gambray*, I found no remedy quicker and safer in its effect in all my patients, whose number was very considerable, than plentiful and seasonable bleeding (*n*).” To these remarks

(*n*) Bleeding in the beginning of this disease should seem unsafe, as it always, in some measure, slackens the course of the blood to the external parts, and consequently checks perspiration; whence the poison is detain’d in the body. Besides, the terror and apprehension the diseas’d are generally under immediately hurries

remarks the author adds some instances of persons cured by this method, which I here omit for brevity sake; but must beg leave to relate an uncommon history of a fact, no way foreign to our present subject, which happened a few years since in *England*.

*History of
cures from
bleeding
plentifully.*

29. At the same time, when, amongst the other calamities of the civil war that severely afflicted this nation, the plague also raged in several places, it was brought by accident from another place to *Dunstar* castle in *Somerset-shire*, where some of the soldiers dying suddenly with an eruption of spots, it likewise seized several others. It happened at that time that a surgeon, who had travell'd much in foreign parts, was in the service there, and applied to the governor for leave to assist his fellow soldiers who were afflicted with this dreadful disease in the best manner he was able, which was accordingly granted. His method was, at the beginning of the disease, and before a swelling could be perceiv'd, to take away so large a quantity of blood, that they were ready to faint and drop down; for he bled them as they stood, in the open air, and had no vessels to measure the blood, which falling on the ground, the quantity each person lost could not of course be known. The operation being over, he sent them to lie in their tents; and tho' he gave no kind of remedy after bleeding, yet, of the numbers that were thus treated not a single person died; which is surprizing (*o*). I had this relation from Col.

F 2

Francis

hurries the blood to the internal parts, and bleeding having a like effect must therefore needs be detrimental. But if custom, a fullness of blood, or high living should render it necessary, it may be us'd upon the second or third day, a gentle sudorific having been previously given; because by lessening the quantity of the blood the propulsion of the virulent matter to the glands is facilitated and promoted, and with still greater certainty, provided the course of the blood to the external parts be afterwards assisted by mild sudorifics.

(*o*) The success that attended this very singular method will in all probability be no encouragement to a prudent practitioner to attempt the same upon a like occasion, nor screen the author from the censures he seems justly liable to on account of his violent and improper measures. To bleed in so irregular and extravagant a manner, in a disease that is generally accompanied with an extreme lowness of spirits and loss of strength, seems a very irrational and unsafe practice; but to treat a number of persons thus, without any regard to the difference of constitution, the different manner of their being affected, and other circumstances, argues great rashness, unskilfulness, and an obstinate attachment to a vague, disorderly

Se&t. 2. *Francis Windham*, a gentleman of great honour and veracity, and at that time governor of the castle.---I shall set down what I have met with deserving notice, with respect to this subject, when I come to deliver the few observations I was enabled to make whilst the late *London plague* prevail'd.

Sweating
preferred to
bleeding.

Its Incon-
veniences.

30. But tho' I approve of this method in my own mind, and have formerly experienc'd its usefulness in many instances; yet, for several reasons, I prefer the dissipation of the pestilential ferment by sweat to its evacuation by bleeding; because sweating does not weaken the patient so much, nor tend to discredit the physician. But this has also its inconveniences; for (1) in many, and especially in young persons of a hot constitution, a sweat is not easily raised, and the more you endeavour to raise one in such subjects by heaping on clothes, and giving powerful sudorifics, so much the greater danger there is of causing a *delirium*, or, which is still worse, after having been deluded a while with vain expectations, *pestilential* spots are at length forc'd out instead of sweat.

31. (2) As the chief malignity of this disease lies in the more spirituous parts of the blood, whence the motion of its grosser particles is generally somewhat more languid than in other inflammations, this finer part acquires a much more violent motion by this additional heat, and at length entirely breaks down all the *fibres of the blood preternaturally distended*. And from this dissolution of the sanguineous fibres I judge the origin of the *pestilential* spots or eruptions should be deriv'd; because, like the marks left by violent stripes on some muscular part of the body, they are at first of a deep red, but shortly afterwards become blue or black.

32. (3) Again, in such as are pretty apt to sweat, if the sweat be stop't too early, *viz.* before the morbid matter be totally expell'd, the *buboes*, which began to rise kindly at the decline of the sweat, by thus wasting a part
of

disorderly and ill-establish'd empiricism, Not to mention that some would lose more blood than others, before they became faint, which however appears to have been the circumstances that determin'd him to stop the bleeding; and that the quantity lost must have differed considerably in particulars as the orifice happened to be smaller or larger and the blood thicker or thinner: whence again 'tis manifest he acted rather by caprice and humour than sound and deliberate judgment.

of the matter intended to fill them, either strike in, or at least never become true abscesses, (as it usually happens in the *small-pox* when the patient has sweat copiously in the beginning) and the matter thereof, being re-admitted into the blood, raises a violent motion therein, by which means the *pestilential* spots, which denote imminent death, are often driven out in the manner above described.

33. But, in order to shew more clearly how to prevent these and other inconveniencies, I will faithfully set down all that I have done and observed in this disease, beginning from the first appearance of the late *plague*.

34. At the beginning of *May*, in the year 1665, I attended a lady, about one and twenty, and of a sanguine constitution, who, besides the burning fever, which began a little earlier, had frequent vomitings, and other febrile symptoms. I began the cure with bleeding, and next day, to guard against a looseness, directed a vomit, which operated pretty well: for, as I have already observed in the beginning of this treatise, a looseness usually comes in the declension of a fever for want of giving a vomit, when it was indicated by the retchings in the beginning (*p*). Visiting her next morning, I found she had a looseness, which perplexed me much, having rarely met with this symptom for some years before. Hence I judg'd that this was no common fever, as the event also shew'd, and consequently requir'd to be treated in a different manner from that abovemention'd, which I had hitherto constantly us'd with success. Upon this a senior physician being join'd with me in consultation, bleeding was repeated by our joint advice, which the age, constitution of the patient, and the violent ebullition of the blood seem'd to demand; moderately cooling cordials were also given, and glysters injected every other day. At the decline of the disease we directed some of the stronger alexipharmics, because there arose very uncommon and irregular symptoms, which are generally esteem'd signs of considerable malignity; but all these means proving of no effect, the patient died about the 14th day.

An extraordinary case.

35. The singular nature of this disease occasioned various reflexions in my mind for some days afterwards;

Thoughts occasioned thereby.

F 3

but

(*p*) See *Señ. I. Chap. IV. Par. 9.*

Sect. 2. but at length recollecting, (1) that the violent heat continued even after repeated bleeding; (2) that the patient's cheeks were red; (3) that some drops of blood distill'd from her nose a little before her death; (4) that her blood resembled that taken away in a pleurisy; (5) that she had a cough, and dull pains in the *vital parts*, or breast; and (6) that it was that season of the year, which includes the end of spring and beginning of summer, and which is less dispos'd to produce continued fevers; all these dividing, as it were spontaneously, at this time, and either becoming intermittents, or suddenly turning to pleurisies, and the like inflammatory disorders; and lastly (7) that pleurisies were very *epidemic* at the same time: Having, I say, duly considered these particulars, I concluded that this fever, tho' it had not the pathognomonic or distinguishing signs of a *pleurisy* or *peripneumony*, was symptomatic, and occasion'd by an inflammation, conceal'd near the *vital parts*, tho' it was unaccompanied with pain in the side, or great difficulty of breathing. In short, I became at length of opinion, that I ought to have follow'd the same method here, that I had frequently us'd in a pleurisy with good success. And indeed it afterwards fully answer'd my expectations; for being call'd some little time after to a man affected exactly in the same manner, I began and finished the cure by repeated bleeding, after the method described below in the *pleurisy*. And about the end of *May* and beginning of *June*, this fever being then very *epidemic*, I recovered numbers by the same means. From this time forwards that dreadful *plague* began to rage with great violence, which afterwards became so severe, that in the space of seven days it destroyed as many thousand persons in this city only.

A new method of cure
the result.

36. Whether the fever under consideration deserves to be entitled a *plague*, I dare not positively affirm; but this I know by experience, that all who were seiz'd with the true *plague*, attended with all its peculiar concomitants, at that time, and for some time afterwards, in my neighbourhood, had the same train of symptoms both in the beginning and course of the disease. But when there was danger from the near approach of the *plague* to the house wherein I lived, yielding at length to the solicitations of my friends, I accompanied the vast numbers

numbers that quitted the city, and removed my family some miles distant from it. But I returned to town in so short a time, and whilst the *plague* yet raged so violently, that on account of the scarcity of abler physicians I could not avoid being called to assist the infected.

Chap.2.

And not long after I attended several persons in fevers, which to my great surprize I found were of the same kind and nature as those I had so successfully treated before my departure: and therefore trusting to my own experience, as a guide to be preferred to all manner of airy notions, I scrupled not to direct bleeding, as I had formerly done in the like cases.

The pestilential fever cur'd by copious bleeding.

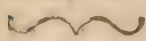
37. I continued this practice of plentiful bleeding, along with the use of a ptisan and a cooling diet, in numbers with wonderful success; 'till at length it failed me, thro' the obstinacy of the patients friends, who were so unreasonably prejudiced against it, as not to let enough blood be taken away, to the great detriment of the diseased, from whom, as the cure turned chiefly upon bleeding, either a sufficient quantity of blood, or none at all, was to be taken away. Finding my endeavours so warmly oppos'd, I judged that the discovering another method of curing this disease would be of eminent service for the future.

Mischief of not taking away enough blood.

38. I shall here relate an instance of the mischief I once innocently did, not by bleeding, but because I was hindered from taking away as much blood as I judged requisite.---I was called to a young man, of a sanguine complexion, and robust constitution, who had been seiz'd with a violent fever two days before, attended with vertiginous pains in the head, excessive vomiting, and other symptoms of a like kind; and finding upon enquiry that there was no sign of a swelling, I immediately directed a large quantity of blood to be taken away, the top whereof, when cold, resembled corrupt pleuritic blood; and I also prescrib'd a ptisan, and cooling julaps and broths. In the afternoon bleeding was repeated in the same quantity, and again, in like manner, the next morning. Calling upon him in the evening I found him much better, nevertheless his friends mightily opposed farther bleeding, which yet I insisted on again, assuring them that only a single bleeding more was necessary, and he would then be out of danger, but that if they continued to oppose it, bleed-

Instance'd in a particular case.

Sect. 2.



ing had better have been wholly omitted, and the cure undertaken by sweat, adding, in short, that otherwise he would certainly die. The event confirmed my prognostic; for the dispute about the operation to be perform'd lasted so long that the opportunity of doing it was lost, and the remains of the peccant matter, which ought to have been entirely carried off, (as bleeding so frequently repeated left no room to expect an abscess) corrupting the whole mass of blood, and destroying the texture thereof by its extraordinary subtilty, the patient died in a few hours afterwards.

39. Having frequently met with such perplexing obstacles, I sollicitously bent my thoughts to discover, if possible, as effectual, and at the same time a less exceptionable method of curing this disease. And after frequent and long consideration of the matter I pitch'd upon the following, which has since proved always serviceable, and every way compleat.

A safer method had substituted in its place.

40. First, if a *swelling* has not yet appear'd, I bleed moderately, according to the strength and constitution of the patient, after which a sweat is readily and expeditiously raised, which otherwise would not only be difficultly procured in some subjects, but there would also be danger of increasing the inflammation thereby, and thus driving out the purple spots. And the immediately succeeding sweat makes abundant amends for the considerable mischief the loss of blood, tho' in a small quantity, would otherwise occasion. After bleeding, which I direct to be done in bed, so soon as all things are in readiness to raise a sweat, I immediately order the patient to be covered over with clothes, and a piece of flannel to be applied to his forehead, which last expedient contributes more towards raising a sweat, than one would easily imagine. Then, if the patient does not vomit, I administer these and the like sudorifics:

A sudorific bolus.

Take of Venice treacle, half a dram; the electuary of the egg, a scruple; Gascoign's powder, twelve grains; cochineal, eight grains; saffron, four grains; and the juice of kermes enough to make the whole into a bolus; to be taken every six hours, drinking after it six spoonfuls of the following julap.

A sudorific julap.

Take of the distill'd water of carduus benedictus, and compound scordium water, of each three ounces; treacle

treacle water, two ounces; Syrup of cloves, an ounce: Chap. 2.
mix them together for a julap.

41. But if there be a vomiting, as it frequently happens in the plague and pestilential fevers, I forbear sudorifics, till, by the weight of the cloths, and throwing part of the sheet over the face between whites to collect the steams, the sweat begins to flow. For it is well worth observing that, as soon as the rays of the morbid matter arrive at the circumference of the body, the loosens and vomiting, occasion'd by their being turn'd back on the internal parts, and lodging in the stomach and intestines, immediately cease spontaneously; so that how excessive a vomiting soever had preceded, the medicines afterwards taken are properly retain'd, and excite sweat as well as can be wish'd.

*Sudorifics
when to be
given.*

42. I remember that when I was desired by an apothecary to visit his brother, who lay dangerously ill of a pestilential fever, and spoke of giving a sudorific, he said he had already given several strong ones without effect, the patient having thrown them up by vomit. To this I made answer, that he might prepare one of the most nauseous of those that had been exhibited, and I would easily prevent his vomiting it up. The event verified my promise; for the patient having first sweated moderately, by the weight of the bed-clothes only, swallowed and kept down a large bolus of Venice treacle, which, causing him to sweat plentifully, he recovered.

43. But to come back to my subject: I direct the sweat to be continued for twenty four hours, by giving draughts of sage posset drink, or mace ale, between whites; strictly cautioning against wiping off the sweat, and not allowing the patient's linnen to be changed, however moist or foul it be, till twenty four hours after the sweat is gone off; and this I recommend to be observed with particular care. For if the sweat vanishes in less time, the symptoms immediately return with their former violence, and the health of the patient is left exposed to a fresh conflict, which by a longer continuance of the sweat would have been out of danger.

*The sweat
to be con-
tinued 24
hours.*

44. And, in reality, I wonder much at Diemerbroeck and others, when I consider upon how slight a pretext they are induced to stop the sweat, namely to preserve the strength of the patient. For (1) that the patient

*Objections
to it an-
swered.*

is

Sect. 2. is stronger, whilst the sweat flows than before, must have been observed by every one that is but slenderly acquainted with the treatment of this disease. (2) I shall not scruple to publish and defend what practice and experience have taught me, with respect to this matter. Several, who by my advice were kept in a sweat for twenty four hours, have been so far from complaining of greater weakness from thence, that they have declar'd that in the same proportion the superfluous humour was thus carried off, they perceiv'd their strength increase. And towards the latter part of the time, I have often observ'd with surprize, that there appear'd a more natural, genuine and copious sweat than the former occasioned by the sudorific, and which gave greater relief, as if it were truly *critical*, and terminated the disease. (3) Again, I do not see what inconvenience would attend refreshing the patient with restorative broths and liquids, when the sweat is at the height, and then the objection of want of strength to bear long sweats, vanishes. If, therefore, a faintness be perceiv'd towards the end, I allow the patient to sup a little chicken-broth, the yolk of an egg, or the like, which, together with the cordials and draughts, usually directed to keep up the sweat, sufficiently support the strength. But in a matter of fact so evident, 'tis needless to use many arguments; for what clearly shews the advantages of this method is, that whilst the patient continues to sweat, he judges himself in a fair way of recovery, and in the opinion of the attendants seems in no farther danger; but as soon as the sweat ceases, and the body begins to dry, all things change for the worse, a kind of relapse being thereby occasioned.

*What is to
be done af-
ter the
sweat is
gone off.*

45. For twenty four hours after the sweat is gone off, I advise the patient to be cautious of catching cold, to let his linnen dry on his body, take all his liquids warm, and also to continue the use of the sage posset drink. Next morning I give the common purge, made of an infusion of *tamarinds*, the leaves of *sena*, *rhubarb*, with *manna* and *soluteve syrup of roses* dissolv'd in the strained liquor (q). And by this method I recovered several persons, who were seiz'd with a *pestilential fever*; and did not

(q) See Sect. I. Chap. IV. Par. 35.

not lose a single patient after I began to use it (r). Chap. 2.

46. But where a swelling has appear'd. I have hitherto

(r) The intentions of cure in the *plague*, as delivered by *Hoffman* are, (1) to assist nature in promoting the discharge of the poison receiv'd, by the proper outlets, and chiefly by those critical tumors whereby it is generally expell'd; and (2) to keep up the strength and spirits, and remove the urgent symptoms. He advises to be sparing in the use of remedies, observing that few are best; and judiciously cautions against heating medicines, or alexipharmics, as they are commonly entitled, which increase the anxiety and heat, promote the dissolution of the juices, and force the *pestilential miasm* from the first passages into the blood, and upon the nervous parts: of this kind are all volatile urinous and oleous spirits, and volatile salts. Mixtures with acids are given with great advantage and safety. Opiates generally prove detrimental, but mild cordials do service. An emetic is very proper to be given, as soon as a sickness at stomach is perceiv'd along with a *cardialgia*; and being immediately follow'd by a sudorific, has been found to remedy the disease in the beginning. *Nitre* is excellent in full habits, bilious or sanguine constitutions, and where the heat is considerable, the fever violent, and accompanied with thirst, and pain in the head. But where there is a drowsiness, low pulse, coldness of the extremities, and great terror has preceded, nitrous medicines should be refrained. It is always safer to mix *nitre* with *camphire*, whereby the vaporous nature of the *camphire*, and the cooling one of the *nitre* are admirably corrected, and a medicine obtained, that is not only alexipharmic, but effectually checks an inflammation. Laxatives are extremely hurtful in the beginning of the disease, but excellent in the declension. The extremes of heat and cold are equally to be avoided in the course of the cure.

Buboes, if they appear late, should be promoted by drawing applications, cupping-glasses, and even blisters. When they appear, their suppuration is to be promoted by digestive cataplasms, prepar'd of *figs*, the roots of *white lillies*, roasted *onions*, *linseed meal*, *honey* and *saffron*; or by ripening plasters applied thereto, such as *diachylon with the gums*, *melilot*, or *mucilage plaister*. After suppuration they are to be opened and cleansed and incarned, with balsam of *Arceus*, mixt sometimes with *Basilicon*; allowing time for the *sanies* to be discharg'd, and not healing them up too hastily. The cure of *carbuncles* is to be attempted by anointing their edges with a digestive liniment, and covering them with cataplasms made of *roasted garlic*, *pigeons dung*, *Venice treacle*, and *oil of turpentine*; and when the eschar, or scab, falls off, anointing the place with *Egyptian ointment*, or the like. But if there be a gangrenous corruption, and it seems to spread, the part affected must be scarified, and a liquor applied thereto, which powerfully checks inflammation and corruption; such as the following, the good effects whereof I have frequently experienc'd.

Take of rectified spirit of wine, four ounces; *camphire*, two drams; *saffron*, and artificial *nitre*, each a dram: let them infuse together.

Artificial *nitre* is made of spirit of sal-ammoniac and spirit of *nitre*, and perfectly dissolves in spirits of wine. If

Sect. 2.

*Bleeding
how prac-
ticable with
safety.*

hitherto forbore bleeding, even in such as had little tendency to sweat, apprehending the sudden death of the patient might prevent the intended sweat, the morbid matter returning tumultuously into the emptied vessels. Yet possibly bleeding might be used with safety, provided sweat were raised immediately afterwards, which being continued for the space abovemention'd, may be able to disperse and waste the whole bulk of the humour by degrees, with much less danger than would attend the waiting a long time for a kindly suppuration of the imposthume, which is extremely fallacious and precarious in so violent a disease.

47. To conclude; wherever it shall appear to the reader that I am mistaken in point of theory, I ask his pardon; but with respect to practice I declare that I have faithfully set down all particulars, and have nowhere propos'd any thing which I have not thoroughly tried; and, in reality, when I come to die, I trust I shall have the satisfaction of being inwardly assur'd that I have not only endeavour'd, with the utmost diligence and integrity, to recover the health of all those who have been my patients, of whatever rank or condition they were, none of whom have been otherwise treated by me, than I desire to be, if I should be seiz'd with the same distempers; but also that I have laboured, as far as I was able, that the cure of diseases might be directed with greater certainty after my decease; being of opinion that any improvement in this kind of knowledge, tho' it should teach nothing more pompous than the cure of the tooth-ach, or corns, deserves to be prefer'd to the vain ostentation of refined theory, and a know-

If these means fail, have recourse to the actual cautery, and afterwards, to soften the eschar, betimear it with fresh butter.

By way of prevention, the safest and likeliest means to be used are, (1) to quit the infected place; (2) to avoid whatever weakens the body, checks perspiration, and generates crudities in the first passage; as excessive bodily labour, too intense application of mind, sitting up late, warm bathing, all large evacuations, overloading the stomach, &c. (3) if the body be full of foul humours, to correct their vitiated quantity, by temperate balsamics mixt with acids, taken in a moderate dose, and not too frequently; (4) to drink generous liquors at proper times in moderation, and especially rhenish wine, which, on account of its gentle acidity, is esteem'd excellent against putrefaction; and lastly (5) to guard against violent passions, endeavouring to preserve a constant firmness of mind, and shaking off all timorousness and desjection. — Thus far the excellent *Hoffman*.

knowledge of trifles, which are perhaps of as little service to a physician in removing diseases, as skill in music is to an architect in building. Chap. 2.

48. In the last place I shall subjoin one short note, lest perhaps my opinion of *Nature* be taken in a wrong sense, or, at least, not sufficiently understood. In the foregoing discourse I have frequently made use of the term *nature*, and ascribed various effects to her, as if I would thereby represent to myself some one self-existing thing, but every where diffus'd throughout the machine of the universe, which, being endow'd with reason, governs and directs all bodies, such a one as some philosophers seem to have conceiv'd the *soul of the world* to be. Now as I neither affect novelty in my sentiments nor expressions, I have made use of this ancient word in these pages, but, if I mistake not, in a guarded sense, and as it is understood and applied by sound writers. For by *Nature* I always mean “ a certain
“ assemblage of natural causes, which, tho' destitute of
“ reason and perception, are directed in the wisest
“ manner, whilst they perform their operations, and
“ produce their effects.” For the creator and preserver of the universe disposes all thing in such manner by his infinite wisdom, that they proceed to their appointed functions with a certain regularity and order, performing nothing in vain, and only what is best and fittest for the whole fabric of the universe, and their own peculiar nature; and so are moved like artificial engines, not by their own direction, but by that of the artist (s). The term nature, explain'd.

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(s) The term *Nature* not being explained by our author in a manner quite agreeable to the usual medicinal acceptation thereof, we shall here subjoin a clearer and fuller definition of the same from *Hoffman*. “ By *Nature* we mean no more than the progressive
“ and circular motion of the blood and juices, depending on the
“ reciprocal contraction and dilatation of the heart and vessels, and
“ the rest of the solids, wherein the fluids are contain'd, by which
“ due motion of the solids and fluids, there is both a continual secretion made of the useful or nutrimental parts, which should
“ be retained for the service of the body, and an excretion of the
“ useless and excrementitious parts, which should be discharg'd
“ through the proper outlets and strainers.” In another place he expresses his sense of the term more concisely, saying, “ *Nature*
“ is a word we use to signify the structure, mechanism and contrivance of the body, acting with certain powers, according to
“ certain necessary and mechanical laws, assign'd it by its maker.” *Hippocrates* briefly styles it “ The aggregate of all things that
“ concur to perfect health;” and insinuates that it ought to be the foundation of all reasoning in physic.

SECT. III. CHAP. I.

The epidemic Constitution of the Years 1667, 1668, and part of 1669, at London.

The progress of the Small-pox of this Constitution.

IN the year 1667, at the approach of the *vernal equinox*, the *small-pox*, which, during the immediately preceding *pestilential constitution*, appear'd very rarely, or not at all, began to shew itself, and spreading more and more every day, became *epidemic* about *autumn*; after which, its violence being abated by degrees, upon the coming on of the *winter*, it decreas'd, but returned again the following *spring*, and prevail'd, till it was check'd, as before, by the subsequent *winter*. It afterwards increas'd a third time with the approaching *spring*, but did not then rage so severely, nor so generally, as it had done the two foregoing *summers*: and in *August*, 1669, it totally disappear'd, and was succeeded by an *epidemic dysentery*. The *small-pox* was more general in town for the first two years of this constitution, than I ever remember it to have been, either before or since; and nevertheless, as it was at that time the genuine and a kindly sort, it destroy'd few in comparison of the multitudes that were seiz'd therewith.

A good kind.

A new fever arose at the same time.

2. At the same time in which the *small-pox* appear'd, there arose a new kind of *fever*, not much unlike it, except in the eruption of the pustules, and the symptoms thereon depending; of which I shall treat particularly in the following pages. This *fever*, tho' it affected fewer persons by far than the *small-pox*, did notwithstanding last as long; but in the *winter* when that abated, this prevailed, and when the *small-pox* returned again with the *spring*, the *fever* went off, so as thus to leave the *small-pox* the *predominant epidemic* of this constitution; the *fever* notwithstanding never manifestly ceas'd during this space, till at length it totally disappeared, together with the *small-pox*, in *August* 1669.

And a looseness.

3. These two *epidemic* diseases were accompanied by a third, especially the last *summer*, wherein this constitution

tution prevailed, viz. a *looseness*, the constitution of the air then inclining to the subsequent *dysentery*. But however this be, at least it appeared that this disease so nearly resembled the then reigning *fever*, that it should seem to be only the *fever* turn'd inwards, and fixing upon the bowels.

4. I shall treat of these three disorders apart, which may justly be called the sole *epidemics* of this constitution. I begin with the *small-pox*, of which I shall discourse more at large, because the species that prevailed during this term of years seem'd to me to be more particularly *genuine* and *regular* than any other, inasmuch as it exhibited the like phenomena, and appeared with the same train of symptoms in all that were seized with it; from which therefore, as being the most perfect in its kind, both a true history of this disease, and the method of cure are to be taken.

5. For it must be observed that every particular constitution of years has not only a proper and peculiar *fever* belonging thereto, but also a peculiar kind of *small-pox*, which is of this species for this course of years, but of a different one in the following years, however alike they may seem with respect to certain phenomena which are common to all the kinds: so differently does nature act in the production of *epidemic* diseases.

Every constitution attended with its peculiar fever and small-pox.

6. But to resume the subject: I will first give the history of this species of the *small-pox*, which I call the *regular* kind, to distinguish it from the *irregular* kinds of the following years; and I will also subjoin the method of cure, which has succeeded to my wish.

C H A P. II.

Of the regular Small-pox of the Years 1667 and 1668, and part of the Year 1669.

THE *small-pox* in those years it proves *epidemic*, and is also mild and *regular*, usually begins about the *vernal equinox*, as did that now under consideration; but in those years wherein it is not only *epidemic*, but likewise *irregular*, and of a more dangerous kind, it sometimes appears sooner, viz. in the month of January;

When the small-pox begins.

Sect. 3. *ary* (a); seizing whole families, and sparing none of what age soever they be, unless such as have already had it, not even suffering those to escape who have been afflicted with the *bastard* kinds: which are indeed diseases of a different nature (b). There are two kinds of this *small-pox*, as well as of that which happens in *all* years, the *distinct* and *confluent*; which tho' they differ not essentially, as they say, are yet easily distinguished by some considerable symptoms peculiar to each kind.

The leading
symptoms in
the distinct
kind.

2. (1) The *distinct* kind begins (1) with a chillness and shivering, immediately followed by (2) extreme heat, (3) violent pain in the head and back, (4) vomiting, (5) and in grown persons a great tendency to sweat; for I never observ'd such a disposition in children, either before or after the eruption; (6) pain in the parts immediately below the *scrobiculum cordis*, if they be pressed with the hand; (7) sleepiness and *stupor*, especially in children, and sometimes convulsions, which happening after dentition is over, I always suspect the *small-pox* to be just approaching, and the eruptions appearing in a few hours after generally confirm the prognostic: so that, for instance, if a child be seized with a convulsive fit over night, as it usually happens, the *small-pox* comes out next morning; and I have frequently observ'd that the *small-pox* immediately succeeding such fits throws out large eruptions, is of a mild and favourable kind, and seldom proves confluent. And these are nearly all the symptoms that accompany this disease in the beginning, and generally precede the eruption of the pustules. But it may be proper to observe here that in such whose blood is of a looser texture, and easily admits

(a) Boerhaave observes that if the *small-pox* arises in a place where it has not appeared for six years past, either towards the end of *January* or in *February*, the following summer will be attended with a dangerous kind; but it may be easily cured in the beginning. Hence great attention must be had here to the nature of the disease, and the particular treatment it demands, &c. so that in the summer, when it will be of an extremely bad kind, we may be prepar'd to give such medicines as agree best with this *epidemic* species; tho' it then generally proves mortal. But if the *small-pox* appears in *May*, it will be gentle, and of a favourable and healthful kind. See *Prax. med.* vol. v. p. 299.

(b) Scarce one of a thousand who have had the *small-pox* ever catch it a second time, unless it be of a different kind; thus if a person has had the *distinct* kind, he may yet have the *confluent* one; but if he has had this species, he will never be seized with this disease again. *Id.*

mits of a change; it sometimes happens that the course of *separation* is perform'd by degrees; without any considerable sickness previous to the expulsion of the matter, and eruption of the pustules.

3. The *distinct small-pox* come out mostly on the fourth day inclusive from the beginning of the illness, and sometimes a little later, but very rarely sooner; at which time the symptoms are usually much abated, or even go quite off, so that the patient seems tolerably well; only grown persons are so inclined to sweat, as scarcely to be kept from it, however thinly they are cover'd; and this disposition continues till the eruptions begin to ripen, and then vanishes spontaneously. The eruption proceeds nearly in the following manner: first a kind of pale red pustules, as large as the head of a small pin, appear scattered up and down, first on the face, neck and breast, and afterwards on the whole body. During this stage of the disease, the throat is affected with a soreness that increases proportionably as the pustules rise, which growing every day larger, and sharper at the top, diffuse a redness and inflammation over the skin and flesh of the parts adjacent.

Time and manner of the eruption.

4. This happens about the *eighth* day from the beginning of the disease, which is a time I always take particular notice of here, for then the spaces between the pustules, that appeared before of a pale white, begin to grow red, and swell in proportion to the number of pustules, and are affected with a pain from the distemper and tearing of the parts, as it were, which, continually increasing, promotes the inflammation and swelling abovementioned, so that in the progress of the disease the eye-lids are so fill'd and distended, as sometimes to make the patient blind, and they shine, and nearly resemble an inflated bladder. Sometimes the blindness comes on sooner, a greater number of pustules fixing on the eyes from the very beginning of the eruption; next after the face, the hands and fingers swell in proportion to the quantity of the eruptions. The pustules on the face, that till this day were smooth and red, now grow rough and whitish, which indeed is the first sign of a beginning suppuration, and they likewise gradually discharge a yellow matter, in colour resembling a honey-comb. The inflammation of the hands and face being in the mean time come to its height, causes the spaces between the

Beginning and progress of the suppuration.

Sect. 3. eruptions to look of a pretty florid colour, like that of damask roses: and in reality the more mild and genuine the *small-pox* is, so much more the eruptions and their intermediate spaces approach this colour. As the pustules in the face appear rougher and yellower every day as they ripen, so, on the contrary, those of the hands and other parts appear smoother and whiter.

The pustules
begin to dry
on the 11th
day.

5. On the *eleventh* day the swelling and inflammation manifestly abate, and the eruptions both of the face and the rest of the body being come to their maturity and just bigness, which, in these years, equall'd that of a large pea, dry and scale off; and in this kind of *small-pox* they commonly disappear on the *fourteenth* or *fifteenth* day. But the eruptions of the hands generally prove more obstinate than those of the other parts, and being yet fresh and white, remain a day or two after the rest. Those of the face and body scale off, but these burst, and so vanish. The pustules of the face are succeeded by a scurf, or branny scales, and these sometimes by pits, or pock-marks; for when the pustules first fall off, no uneasiness is perceiv'd in the skin, but these scales often coming on and falling off alternately, at length those pits are made that frequently continue visible long after the recovery of the patient in this disease; tho' the *distinct small-pox* very rarely leaves any marks behind it. During the last six months of the year this sometimes happened, seldom in the first; unless the sort was *confluent*, as we shall hereafter remark. The patient is either quite costive, or has few stools throughout the whole course of the distemper. And let this suffice for the *distinct small-pox*.

The confluent
small-pox descri-
bed.

6. (2) That species of the *small-pox*, which we call the *confluent*, is attended with the same symptoms in common as the *distinct*, only they prove more violent; the *fever*, *anxiety*, sickness and vomiting, &c. being more severe, and by these signs a skilful physician discovers it to be the *confluent* kind, even before the eruption. Nevertheless the patient is not so ready to sweat in this kind, as in the other just describ'd, where the great tendency there-to generally foreshews that the *small-pox*, which will soon appear, will not run together. Moreover a looseness sometimes precedes, and continues a day or two after the eruption; which I have not hitherto met with in the *distinct small-pox*.

7. This

7. This kind of *small-pox* generally comes out on the *third* day, sometimes earlier, but scarce ever later, where-as the *distinct* appears on the *fourth* day inclusive from the beginning of the distemper, or later, but very rarely before, and the sooner the pustules come out before the fourth day the more they run together (*c*). However, tho' this be true in general, and the *confluent* kind scarce ever appears so late as the fourth day, yet sometimes the eruption is deferr'd by some violent symptom to the fourth or fifth day, *e. g.* (1) sometimes a sharp pain in the loins, resembling a fit of the stone; (2) sometimes in the side, like a pleurisy; (3) sometimes in the limbs, as in the rheumatism; or lastly, (4) in the stomach, attended with great sickness and vomiting. In these cases, which however are not common, I have observ'd the small-pox to come out later than ordinary, as being retarded by the considerable violence of the symptoms above enumerated, which indeed being more severe than usual, when they arise in the very beginning, manifestly indicate the subsequent small-pox to be of the *confluent* kind, and not void of danger.

The pustules
generally
come out on
the 3d day.

8. I am next to remark that tho' the symptoms accompanying this disease in the beginning, in the *distinct* kind, go off, as I said above, immediately after the eruption, it nevertheless happens much otherwise in the *confluent* kind; both the fever here, and other symptoms, afflicting the patient for several days after the pustules appear.

9. Sometimes this sort comes out like an *erysipelas*, and sometimes like the *measles*; from which they cannot be distinguish'd, at least as to the outward appearance, unless by a physician well acquainted with these diseases. But whoever carefully attends to the different time of the eruption in these diseases, and other circumstances, which from the history of each will be found to differ extremely, will readily distinguish them. As the distemper increases, the pustules, especially those of the face, do not rise plump, as in the *distinct* kind, but run together, and appear at first like a red bladder

Sometimes
they come
out like an
erysipelas,
or the
measles

G 2

covering

(*c*) Most practitioners observe that the slower the small-pox come out, the milder they prove, and the better they ripen. Those appearing on the first day of the illness are esteem'd the worst kind, those on the second, milder, those on the third, still more gentle, and on the fourth, the most favourable. *Boerhaave, Prax. med. Vol. v. p. 302.*

Sect. 3.



Begin to dry
after the
8th day.

covering the whole face, and making it to swell sooner than in the *distinct* sort, till at last they appear like a thin white pellicule, closely adhering to the face, and rising little higher than the surface of the skin.

10. After the *eighth* day this pellicule grows every day gradually rougher, as appears by the touch, and inclines to a *brown*, and not to a *yellow* colour, as in the *distinct* kind. The roughness and colour of the skin daily increase, till at length the pellicule falls off in large scales: but when the disease has been very severe, it usually sticks to some parts of the face till after the twentieth day. The more violent the *small-pox* proves, the nearer the eruptions, as they ripen, incline to a dark brown colour, and the longer they are in falling off, if left to themselves; whereas contrariwise the less they run together, the yellower they are, and the sooner they scale off. When this pellicule, or scab, which covers the face first falls off, it leaves no roughness behind, but it is immediately succeeded by branny scales, of a very corrosive nature, which not only make larger pits than the *distinct* kind generally do, but also much disfigure the face with unseemly scars. And in the *confluent* kind, if the disease has been very violent, the skin of the shoulders and back sometimes scales off, leaving these parts bare.

Whence the
danger in
this disease.

11. It must be observed that this disease is not to be esteem'd dangerous from the number of the eruptions scattered over the rest of the body, but only from that in the face; for if they be very thick in the face, tho' there are but few, and those of the *distinct* kind every where else, the patient is equally endangered, as if all the limbs were extremely full (*d*). But, on the contrary, tho' every part beside be very full, if there be but few in the face, the danger is less. What has been said of the number of the eruptions may be affirmed of the kind, which must be judged of by those in the face.

The pustules
largest in
the hands
and feet.

12. I have always observed in the *confluent small-pox* that the eruptions in the hands and feet were larger than those of the other parts, and were gradually less and less the nearer they approach'd the body. And these
are

(*d*) *Boerhaave* observes that the danger always rises in proportion to the number of pustules that seize the head, and advises bathing the feet before the eruption, in order to derive them more abundantly to the extremities. *Prax. med. vol. v. p. 316.*

are observations on the eruptions, which I thought proper to premise.

13. The *confluent small-pox* is attended with two other symptoms, not less considerable than the eruptions, the swelling, or any one of those abovementioned, viz. (1) a *salivation*, or *spitting* in grown persons, and (2) a *looseness* in children. The former is so constant an attendant on this disease in adults, that I never met but with one patient who was free from it; but the latter, namely the looseness, does not so certainly affect children. Whether provident nature has therefore substituted these evacuations, because in this small and flat sort the morbid matter cannot be so entirely discharged, as by the larger and higher eruption in the *distinct* kind, is what I do not determine; for I only write a history, and do not undertake to solve difficulties. This however I certainly know that these symptoms not only generally accompany the *confluent small-pox*, but that the evacuation made thereby is as necessary, as either the eruptions, or the swelling of the face and hands.

A salivation and a looseness attend this kind.

14. The salivation sometimes begins as soon as the eruptions appear, and sometimes not till a day or two after. The matter is for some time thin, easily and plentifully expectorated; and, indeed this salivation is not much unlike that rais'd by *mercury*, only the *saliva* here does not smell so disagreeably. But towards the *eleventh* day, the *saliva*, now become more viscous, is rais'd with great difficulty; the patient is thirsty, coughs often whilst he drinks, and the liquor flies out at the nostrils; and from this day the salivation generally stops, tho' sometimes, but very rarely, after it has ceas'd entirely for a day or two, it returns again. At the same time the swelling of the face begins to abate, but then, instead of it, the hands commonly swell, or at least ought to do so.

When the salivation begins and ends.

15. A looseness does not seize children so soon as a salivation does grown persons; but whenever it begins, unless it be stop'd by art, it attends the distemper throughout.

16. In both kinds of the small-pox the fever rages most from the beginning to the time of the eruption, after which it abates, and continues much more moderate

The fever when highest.

The regular Small-pox of the Years

Sect. 3. rate till the suppuration begins, which being finish'd, it goes off entirely.

17. I have always observed when the disease proved very violent, that the patient had a kind of fit towards evening, at which time (especially) the more dangerous symptoms arose, and raged most severely.

18. Having now given an accurate history of this kind of *small pox*, including its true and genuine phenomena, when the natural course of the distemper is not disturbed, we proceed next to treat of the *irregular symptoms* which happen in this disease, when it is unskilfully treated.

*The 8th day
in the di-
stinct most
dangerous.*

19. It is to be noted therefore that the irregular symptoms happening on the *eighth* day, in the *distinct* kind, and on the *eleventh* in the *confluent* (always calculating from the first beginning of the distemper) do most eminently concern the life or death of the patient, and ought to be thoroughly considered; it being apparent that most of those who perish by either species, die on one of the abovementioned days in each.

*The hot re-
gimen
where im-
proper.*

20. For first in the *distinct* kind, since the patient sweats pretty freely, which, as we remark'd above, usually happens in grown persons, he conceives all will go well, hoping the *virus*, or malignity of the disease will by this means be expell'd thro' the pores of the skin, and therefore diligently promotes the sweat by cordials and a hot regimen, as should seem to be proper; and he pursues this method the more willingly, both because he seem'd to have been reliev'd thereby in the beginning, and likewise that it agrees better with the ill-grounded opinion of the attendants. But those particles being at length expell'd by sweat, which should have served to raise the pustules, and swell the face, on the *eighth* day, the face, which ought to swell and be inflamed in the intermediate spaces, contrariwise appears flaccid, and those spaces white, or pale, whilst yet the pustules look red, and continue elevated even after the death of the patient. The sweat, which had flow'd freely to this day, now ceases suddenly and spontaneously, and cannot be rais'd again by the warmest cordials. In the mean time the patient is seiz'd with a delirium, great restlessness and sickness, a frequency of making urine in small quantities, and dies in a few hours contrary to expectation. But it must here

*The mortal
symptoms
thence occa-
sioned.*

here be observ'd that if the eruptions be few, the disease happen in the winter, and in a person in years, or if bleeding has been previously us'd, this hot regimen, of which we have just treated, does not then so certainly hinder the swelling of the face, and consequently hasten death, as where the eruptions are many, the patient be in the prime of life, and no blood has been taken away.

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21. But in the *confluent* kind the danger is greatest, and the greatest number die on the *eleventh* day; for as the salivation, which had hitherto preserv'd the patient, commonly ceases spontaneously about this time, unless the swelling of the face keeps up a little longer, and that of the hands, now manifestly beginning, supplies its place, death must needs ensue. For it must be considered that in this kind of *small-pox*, where the eruptions are so small, not only the salivation, but also the swelling of the face and hands, is absolutely required, in order to a proper discharge of the morbid matter, and if either be wanting, or goes off too soon, the patient must perish immediately. But it happens too frequently in this hot distemper, that the texture of the blood is so much weaken'd and broke, and so highly inflam'd, by an over-hot regimen, as to be no longer able to perform the expulsion of the inflammatory particles in a slow and gradual manner (not to mention now the mischiefs proceeding from forcing sweat improperly) whence either the face and hands do not swell at all, or the swelling vanishes with the salivation; for tho' the swelling of the face ought to abate a little on this day, yet it should not go off entirely till a day or two after, the swelling of the hands in the mean while continuing and increasing, which is one of the most certain signs of recovery, as the contrary is of imminent danger.

The 11th day most dangerous in the confluent kind.

22. However this be, the *saliva*, which till this day continued crude and thin, and was easily expectorated, is now become so viscid and tough, as to endanger suffocation, and when the patient drinks, the liquor falls down the wind-pipe, whence it is thrown up thro' the nostrils with a violent cough. He is seiz'd with a hoarseness, a great *stupor*, and drowsiness, and being wholly oppress'd by the violence of the disease, generally sinks under these difficulties, on the abovementioned day.

Whence the danger.

G 4

23. There

Sect. 3.

*A delirium
how caused.*

*Whence a
coma;*

*and purple
spots.*

*Whence
bloody
urine.*

23. There are also other symptoms, which happen in any stage of the distemper, and which are equally common in the *distinct* and *confluent* kinds of small-pox. For instance, a *delirium* sometimes seizes the patient, occasioned by the excessive ebullition of the blood, and the heat is so intolerable that he endeavours in a furious manner to get loose from those that confine him in bed. Sometimes the same cause produces a very different or contrary effect as it seems, namely a kind of *coma*, so that the patient dozes almost always, unless he be constantly roused.

24. Sometimes also in this disease, as in the *plague*, the texture of the blood being loosened by the violence of the inflammation, purple spots appear in the spaces between the eruptions, which are generally fore-runners of death: This happens oftener when the constitution of the air chiefly favours this epidemic disease. Sometimes small black spots, scarce so large as small pins heads, and depressed in the middle, appear on the top of the eruptions in different places; which, as they proceed from too much heat, do at length by the use of a cooler regimen acquire a brown, and afterwards by degrees a yellow colour, which naturally belongs to the genuine and regular small-pox. This is apparent to those who are acquainted with this disease, in which all the symptoms become proportionably milder, the nearer the eruptions, when come to suppuration, resemble this colour, and *vice versa*.

25. Again, the blood of young persons, and such as are in the vigour of life, is sometimes so much inflam'd in this disease, especially if too free an use of wine or any other spirituous liquor has preceded, as to break thro' the arteries into the bladder, and so occasion *bloody urine* (e); which is one of the most dangerous symptoms

(e) A redness of the urine has been sometimes taken for bloody urine, it may therefore be proper to observe that if this colour depends on a mixture of blood therewith, it will, after the urine has stood a while to settle, congeal and fall to the bottom, leaving the urine clear at top.

This dangerous symptom should seem to proceed from the acrimony of the juices, and a dissolution of the texture of the blood, the mixture and cohesion of its parts being destroy'd by the considerable degree of putrefaction which accompanies this disease. And from the same cause may proceed the bloody stools, often happening here, (but not once mention'd by our author) and every other hemorrhage.

symptoms that appear throughout the course of this distemper. Chap. 2.

26. Moreover, sometimes, but not so frequently, a *flux of blood from the lungs* proceeds from the same cause. But either of these hemorrhages usually happen in the beginning, before the eruptions appear; or if they shew themselves in some places, yet in most others they lie conceal'd underneath the skin, in great abundance, and are of that kind which would prove particularly *confluent*, unless one of the abovemention'd symptoms should terminate the disease by destroying the patient.

A flux of blood from the lungs owing to the same cause.

27. Sometimes also, especially in young persons, there happens a total suppression of urine, either at the height, or declension of the *distinct* kind.

When a stoppage of urine happens.

28. There are likewise other symptoms that sometimes arise from a contrary cause to those above enumerated; namely when the patient has been injur'd either (1) by too intense cold, (2) improper bleeding in a very large quantity, or (3) over-purging; whence the eruptions sometimes suddenly sink, and a looseness comes on, which, in grown persons, as we have before observed, proves highly dangerous, the *variolous* matter being thereby struck in, so that nature is utterly unable to expell it in a proper manner by the pores. Besides, by this means the swelling of the face and hands is check'd, which is to be esteem'd no less beneficial to the patient than the eruption of the pustules, unless they be very few.

The symptoms from cold, copious bleeding, and over-purging.

29. But the symptoms occasioned by taking cold are very rare, if compar'd with those that arise from the hot regimen; for as this disease may deservedly be reckon'd amongst those of the most inflammatory kind, a mistake on this hand happens much more frequently than on the other.

The former rare.

30. What it is that constitutes the essence of this disease I freely own I know not, on account of a natural defect in the understanding, common to me and all mankind; but upon a thorough consideration of the abovemention'd symptoms, it should seem to be an inflammation of the blood and juices (*f*), (yet of a different

The disease an inflammation of the blood and juices.

(*f*) The virulent matter, occasioning this disease, seems to be of an acrimonious and inflammatory nature, whence the pain, heat, redness,

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Has two stages.

(1) The separation.

(2) The expulsion.

The indications.

rent kind from other inflammations) in removing which, nature, during the first two or three days, endeavours to concoct and digest the inflamed particles, which, being afterwards thrown out on the surface of the body, she further ripens, and, at length, totally expells in the form of small abscesses. Hence, in order to lay a foundation for the method of cure, it must be remarked, that this disease has two stages, the first whereof is that of the *separation*, and the second that of the *expulsion*.

31. (1) The *separation* is mostly accompanied with a febrile ebullition, and is ordinarily finish'd in *three* or *four* days, during which nature is employ'd in collecting the inflamed particles that disturb the blood, and expelling them to the fleshy parts, which being over, the former calm returns, the disturbance raised in the blood, whilst this was doing, being now quieted. The separation being thus finished by means of the ebullition of the blood, (2) the *expulsion* succeeds next, which is perform'd, during the rest of the time the disease continues, by means of those small abscesses in the flesh. For as they differ not in their nature from other abscesses, so, like those, they usually run thro' the states of crudity, suppuration, and exsiccation, which, if they finish in a suitable manner, there is no danger: but if otherwise, all is disordered. And the expulsion requires a much longer time than the separation; because *this* is perform'd in a thin fluid body, and, as I may say, in the bosom of nature, whereas *that* is perform'd in a thick, dense substance, and at a greater distance from the fountain of life.

32. These particulars being premised, the indications that arise are (*g*); (1) that such an equable ebullition

redness, swelling, erosion and ulceration, and also to partake of a caustic and putrefactive nature, whence, by its subtle intestine motion, it destroys the texture and union of the parts, and corrupts them; and this more properly regards the malignity of the distemper, and is particularly manifest in the malignant, or bad *small-pox*.

(*g*) The indications of cure here, as deliver'd by *Hoffman*, are to assist nature with proper helps in correcting, expelling, and suppurating the *variolous* matter. And to this end (1) the acrimonious, vitiated, caustic matter must be corrected, and, according to the manner of speaking used by the ancients, *concocted*, and the violent motions of the vascular and nervous system in the beginning

on of the blood be maintain'd, that it may neither Chap. 2.
 finish the separation too hastily, by rising too high, nor
 retard, or render it incomplete, by sinking too low ;
 (2) that the abscesses, or eruptions be carefully kept up,
 so that, running thro' their proper states, they may at
 length entirely discharge the matter they contain, and
 vanish.


33. (1) To treat therefore briefly of the first indica-
 tion : great caution is required, especially during the se-
 paration, that the ebullition may not rise too high, either
 from heaping too many clothes on the patient, over-
 heating the air, by keeping too large a fire in the room,
 or using heating medicines and cardiacs. And these
 must be particularly guarded against, if either the pati-
 ent be in the prime of life, or his blood be too much
 enrich'd by spirituous liquors, or it be the spring season,
 or, at least, only the beginning of summer. Other-
 wise the separation which should be carried on slowly
 and gradually, for the better promoting an universal
 despumation, will hence be hurried on too fast, and
 thus either there will not be a sufficient number of par-
 ticles collected, or perhaps some particles may be
 brought to secretion, which nature would not other-
 wise have secreted, were it not that, being forc'd beyond
 her just limits, she is thus made to hurt herself. For
 when such particles are separated as are unfit for sepa-
 ration, the motion of *others* that have a tendency there-
 to, is hindered by their mixing with these, and thus
 they are rendered less fit for expulsion.

*Method of
 answering
 the first in-
 dication.*

34. To me, indeed, it seems agreeable to reason,
 that the more time nature employs in perfecting the
 separation, provided the ebullition does not quite flag,
 so much the more certainly and universally it is com-
 pleted ; upon which the success of the subsequent cure
 must needs principally depend, as a different event must
 manifestly ensue from the contrary method. For as
 over-

*The separa-
 tion not to
 be too much
 promoted.*

of the illness, moderated ; (2) the eruption must be promoted, by
 raising or depressing the fever, as it shall be found necessary, that
 so all the matter may be propell'd to the external parts ; but the
secondary fever coming on at the suppuration must be check'd,
 and the violent symptoms remedied ; (3) in the declension, when
 the pustules dry and scale off, purgation must be used to cleanse
 the blood and juices from the foulness they have contracted in the
 course of the illness, by which means the disorders arising from
 the remains of the distemper are seasonably prevented.

Sect. 3.  over-early fruit does not come to perfection, so no good arises from this hot regimen, but on the contrary it frequently happens that the patient either falls immediately into a *delirium*, or, which is a worse symptom, profuse sweats arise, whereby such particles are separated as are unfit for secretion, and not agreeable to the nature of *pus*, (which however is the genuine product of this secretion) or else, the eruptions being driven out too much by cardiacs and a hot regimen, become of a terrible and fatal confluent kind.

*All effects of
this proce-
dure.*

35. These and the like symptoms are ordinarily occasioned by such errors, whereas I have never observed any mischief from the other method: for nature, left to herself, finishes her work in her own time, first separating, and then expelling the *variolous* matter, in the proper way and manner, so as not to stand in need of our help, at least not in the young and robust. Nor in reality have I ever observ'd or heard that any person perish'd because the *small-pox* did not come out at first, but too many have died in whom they came out well and favourably in the beginning, but afterwards went in and sunk contrary, to the nature of the distemper (*b*).

*Danger of
diminishing
the ebulli-
tion too
much.*

36. But tho' 'tis improper and dangerous, by cardiacs or a hot regimen, to raise the ebullition, once begun, too high; so contrariwise the danger is equal in de-

(*b*) Is not this observation contradicted in numerous instances when the small-pox prevails? Are not physicians frequently obliged to have recourse to warm alexipharmics to drive out the eruptions, whilst they lie very thick underneath the skin, without proceeding farther, tho' the usual time for their coming out be past? And this often happens, either because the fever is too languid, in which case moderately heating and generous medicines are apparently required; or because the patient labours under a paucity or lowness of spirits, occasioned by terrifying apprehensions that the disease may prove mortal, whence a stop is consequently put to the eruption, and life, in reality, endangered. For 'tis manifest that the passions of the mind occasion great and sudden alterations in the circulation of the blood and juices, and the functions of the parts thereon depending. Thus anxiety, fear, or apprehension is found to relax the solid parts, and check the circulation; whence we are directed to the remedies proper to be used in this case, which should be such as may restore the tone of the solids, and quicken the motion of the fluids, in a manner suited to the particular exigency, of which kind are mild cordials; and besides these, we ought, upon all occasions, to endeavour to encourage the patient, and make him chearful and easy, or divert his attention from the danger; for as long as the mind gives way to inquietude and concern, all remedies are ineffectual.

depressing it, by bleeding, emetics, cathartics, glysters, and the like evacuations, the due secretion of the separable parts being in great measure prevented hereby. For tho' the common and trite objection to bleeding and other evacuations be of no force, namely that *'tis improper to move the humours from the circumference to the center, as nature seems to affect the contrary in this disease*, because a quite different effect has often been observed to follow upon the use of these means, *viz.* a sudden eruption of the small-pox; nevertheless there are other forcible reasons in readiness to dissuade from this practice, if by any means it can be refrained. For, to treat briefly of the principal of them; (1) by these evacuations, not only the ebullition is too much diminish'd, by means of which the parts intended for despumation should have been carefully separated; but (2) the matter also is wasted, which should continually serve as fuel to the secretion once begun, whence it frequently happens that the eruptions, which came out kindly in the beginning, and perhaps so much the better from the previous use of the abovementioned evacuations, sink soon after, as if they were suddenly struck in; occasioned chiefly by a want of a fresh supply of matter to succeed the former, and finish the separation. But notwithstanding what has been said, if there be the least suspicion that the small-pox, now just upon coming out, will be of the *confluent* kind, it will be highly serviceable not only to bleed, but likewise to give a vomit; for reasons we shall, in another place, set down at large.

Bleeding & vomiting excellent in the confluent small-pox.

37. (2) To proceed now to the second indication, suited the time of expulsion; during which the separated matter is expelled by means of small abscesses, or pustules. Here we are to endeavour to keep them up in a proper manner, so as they may duly and regularly reach the period assigned them.

The second indication how to be answered.

38. As, therefore, I conceive it has been clearly shewn that 'tis highly dangerous to keep the patient over-warm during the time of separation, whilst the fever is present, and the eruptions scarce yet appear; so likewise an error of this kind is equally dangerous at any time of the disease, and especially towards the beginning of the expulsion, whilst the eruptions are yet in a state of crudity. For tho' the tumultuary motion of the blood be considerably abated upon the separation, and translation of the

Danger of over-heating the patient towards the beginning of the expulsion.

matter

Sect. 3. matter to the fleshy parts, yet, being still weak, and having scarcely acquired a new state and texture, it is easily affected by the immoderate heat arising from all parts, and, upon the least occasion given, becomes inflam'd with a tendency to a new ebullition; which does not, like the former, endeavour to promote separation, for we suppose that business over, but, instead thereof, not only produces the dangerous symptoms before mentioned, but disturbs the eruption begun, and proves detrimental, by putting the contents of the pustules into violent motion. And by this means either the particles already secreted, and deposited in the habit, being hurried away by the violent and rapid motion of the blood, are absorb'd thereby; or the fleshy parts, being heated beyond the degree requisite for suppuration, do not finish it so completely; or lastly, perhaps, upon the coming of this new disorder, the texture of the blood, and the tone of the fleshy parts suffer so great an alteration, that they cannot overcome the matter expell'd, and digest it in the usual way of abscesses. (i)

*The eruption
not to be
check'd.*

39. But we must not be so intent upon preventing an immoderate ebullition of the blood, as to check the eruption of the pustules, by exposing the patient to the injuries of the cold. The fittest degree of heat to promote their expulsion is the natural one, as this is suitable to the temper of the fleshy parts; and to exceed, or fall short of it, is dangerous on either hand.

*The method
of curing
this disease
precarious.*

40. From what has been delivered it seems manifest that this disease is a very dangerous one, and the method of cure difficult to be ascertained. And therefore I scruple not to assert that the reputation of the physician, who is frequently employed in it, is much exposed to censure; for not only the vulgar are apt to attribute the cause of the patient's death to the over-officiousness of

(i) All heating medicines to drive out the *small-pox* deserve to be condemn'd in general; for they put the blood and juices into violent motion, increase the heat, anxiety, convulsions, and *delirium* where these symptoms occur, and also render the *variolous* matter more acrimonious and subtiler, whence a gentle *small-pox* is easily converted into a bad and malignant kind: and so far are they from procuring an equal and constant eruption, that they rather expel the matter, not duly prepared, too soon, so that it does not keep its future stage, but in a short time after strikes in, with great danger to the patient. Besides, they dissolve the blood too much, waste the mild nutritious juice, and at the same time exhaust the strength by the copious sweats they occasion.

of the physician, but even the professors of the same art take occasion from thence to defame their brother, and haranguing before partial judges, easily obtain the severe sentence against him, with this view, that they may procure greater esteem to themselves, and build their rise upon the ruin of others; which is a practice utterly unbecoming men of letters, and even the meanest artizans, provided they have a regard for probity (*k*). Again, we may from hence observe, which is less surprizing, that nurses, who are generally too busy and officious, often prove unsuccessful in treating the disease: for 'tis a difficult matter, and which exceeds the comprehension of an old woman to ascertain the degree of heat requisite in this case, especially, since in order thereto the season of the year, the age of the patient, his manner of living, and other like circumstances must be considered together, which in reality demands a prudent and skilful physician.

41. If the eruptions happen to strike in, or the swelling of the face and hands fall, either from unseasonable bleeding, or taking cold, recourse must be had to cardiacs (*l*), but we must be careful of giving them too freely. For tho' blood has been taken away, it may notwithstanding happen, that fearing the loss of strength from thence, and therefore giving either strong cordials, or using mild ones frequently to prevent it, a new ebullition

*Cardiacs
when and
how to be
given.*

may

(*k*) Doubtless our excellent author had experienced this ungenerous treatment in his own particular; and in effect we find him afterwards pathetically complaining of it: which affords a melancholy proof that neither great abilities, unquestionable candour and integrity, nor the most indefatigable endeavours to serve mankind can secure a person, who leaves the common road, from the unjust censures of the narrow-spirited, disingenuous, and prejudiced part of the professors of the same science. Whoever makes a new discovery which tends to overthrow a set of prevailing notions and rules, (venerated probably more for their antiquity than justness) and establish a truly rational theory, and more effectual methods of practice, must expect to meet with great opposition from the ignorant, envious and prepossessed, and be treated as rash innovators, deligning and interested persons, however conspicuous they may be for learning, prudence, and extensive humanity. Such was the usage our illustrious friar *Bacon*, and the sagacious *Harvey* met with from a number of their contemporaries: and who can hope to pass unscathed, when men of their eminent knowledge could not escape?

(*l*) These symptoms may also be occasioned by a decay of strength, sitting up too long, terror, &c. and, unless immediately remedied by some proper cordial, life is endangered. Blisters are eminently serviceable here.

Sect. 3.



may be suddenly raised, the blood being yet weak; and easily affected by a hot *stimulus*; whence frequent ebullitions are excited therein, to which the death of the patient is rather to be ascrib'd, than to the preceding bleeding. And let this suffice with respect to such particulars as may answer the primary intentions.

The treatment of this disease particulariz'd.

42. Now, to come nearer practice: as soon as the signs of the disease appear, I confine the patient within doors, forbid the use of wine and flesh-meats, and allow *small-beer* moderately warm with a toast for common drink, and sometimes suffer it to be drank at pleasure (*m*): I also direct water-gruel, barley-broth, roast-apples, and other kinds of aliment, that are neither remarkably heating, nor cooling, nor hard to digest. Nor do I much disapprove of the common country fare, of milk with roast-apples bruised in it, provided it be given warm, and sparingly. I immediately caution against a hotter regimen, and the use of all cardiacs, whereby some injudiciously endeavour to force out the small-pox before the *fourth* day, which is the natural and proper time for the eruption; for I certainly know that the slower the pustules come out, the more general the separation of the variolous matter will be, the better they will ripen, and the less danger there will be of their striking in: whereas if they be driven out too soon, the matter, being yet crude and indigested, is precipitated, and deceives our expectation, like over-early fruit.

Mischief of forcing out the pustules before the fourth day.

43. Again, by this over-hasty procedure, there is great danger, especially in hot and florid constitutions, whose active principles more than sufficiently supply the place of cardiacs, lest nature, being too much irritated and hurried, should overspread the body with the *small-pox*, and so render that the *confluent* kind, which, without this precipitancy, would have been a favourable *distinct* one. So that the small-pox must not therefore be expell'd upon the first suspicion of this disease, because the patient is generally very sick and restless before the eruption; for not a single instance can be produced of its having prov'd mortal, however ill the patient has been, either because the pustules did not come out at all,

or

(*m*) It should be observ'd that if there be actually a looseness, or a disposition thereto, small-beer must be refrained; all malt-liquors being peculiarly apt to encourage this discharge. In this case barley-water, harts-horn drink, and the like are much more proper liquors.

or because nature was deficient in expelling them sooner or later, unless where she was prevented by an hot regimen, and an over-early use of cardiacs (n). And I have more than once observ'd in the young and sanguine, that the use of a hot regimen, and cardiacs given with design to expell the pustules before the due time, have so little promoted their eruption, that, on the contrary, they have prov'd a check thereto. For the blood being heated by this means, and put into a more violent motion than is requisite for performing the separation in a proper manner, only some certain signs of the disease discover themselves, the eruptions in the mean time lying concealed under the skin, and not rising higher, whatever cordials be administered to promote their elevation; till, at length, the blood being reduc'd to its moderate and proper temperature, by allowing the use of small beer, and taking away part of the clothes whereby the heat was considerably increased, I have commodiously made way for the eruption of the pustules, and by this means removed the danger.

44. And, in my opinion, they have as little reason on their side, who so obstinately confine the patient in bed, provided he keeps his room, as those who give cordials in so hasty and improper manner: for *bloody urine, purple spots*, and other mortal symptoms above specified, happen only from a too early confinement in bed, especially in young persons. But on the *fourth* day I direct the patient to be put to bed, at which time, if the eruption does not come kindly forward, 'tis proper to give some gentle cardiac, at least for once, to drive out the pustules. And amongst the medicines that produce this effect, those called paregorics, or opiates, such as *liquid laudanum, diascordium*, &c. given in a small quantity, mixed with some proper *cordial water*, are the best for this purpose; for as they abate the ebullition of the blood, nature expells the morbid matter with greater ease and convenience (o). But I would not advise the giving a

*Ill effects of
confining
the patient
in bed be-
fore the
fourth day.*

*Opiates best
to promote
the eruption.*

H

cardiac

(n) See above, *Par.* 35.

(o) Opiates here are reckon'd amongst the cardiacs, as they promote the eruption, which, however, they should seem to do only inasmuch as they diminish the tension of the solids, and so check the circulation, by which means the separation and expulsion are considerably promoted, especially where the fever is high, and the blood and juices consequently mov'd with great velocity.

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Not to be given before the fourth day.

cardiac before this juncture, even tho' there be a looseness, and that should seem to indicate such a remedy. For tho, as we observ'd above, a looseness may sometimes precede the eruption of the *confluent small-pox*, occasion'd by inflammatory *effluvia*, or humours discharg'd into the intestines from the mass of blood, which during the first days of the illness is greatly heated, and in violent motion; yet nature will as certainly expel these *effluvia* of the variolous matter by the skin, whereupon the looseness goes off spontaneously, as she commonly does the same *effluvia*, which, being turned inward upon the stomach, occasion a vomiting in the beginning of the disease.

Bleeding when requisite.

45. But it is to be observ'd, that if I am called to a strong young man, who, besides, has given occasion to the distemper by too free an use of wine, or any other spirituous liquor, I esteem it not enough to check the ebullition of the blood, for him to keep from bed, and refrain cordials, unless bleeding in the arm be also used (*p*): but if this be opposed, on account of the prevailing prejudice of the vulgar, at least I judge it incumbent on me to propose it. For by the inflammation of the blood, caused by the heat of the spirituous liquors, together with the intense heat that naturally accompanies this disease, the motion thereof is render'd so violent, that it frequently bursts thro' the vessels into the bladder, or occasions purple spots, and other like symptoms, which perplex the physician in the course of the distemper, and destroy

(*p*) A full and strong pulse, a redness of the face, a pain and heaviness in the head and loins, a swelling of the veins, youthfulness, a sprightly disposition, a custom of bleeding, and the suppression of a critical evacuation, indicate bleeding the first or second day. Thus the anxiety, and oppression of the breast soon vanish, the spots appear copiously in the skin, nor is there reason to apprehend such violent symptoms after the eruption. For an over-fullness of blood has often been observed to hinder the due propulsion of the *variolous* matter to the external parts, and occasion the pustules to appear only distinct; whilst the matter left in the habit produces various spasmodic, convulsive symptoms, a *delirium*, a suffocation, and even an apoplexy, towards the declension of the disease. But where the pulse is hard, low and small, the vessels less turgid, the strength languid, the constitution phlegmatic, the patient a child, or a youth, the body corpulent, a vomiting, cough and looseness happen in the beginning of the illness, the patient subject to faint upon bleeding, a vein must not be opened, lest by taking a way too much blood, the matter should be detained in the body and the eruption prolonged for several days, not without danger.

Hoffman. Med. ration. system. tom. IV. p. 154, 155

*What is to
be done in
the distinct
kind.*

*Advanta-
ges of keep-
ing from
bed.*

*Promoting
sweat bad.*

*Canary to be
given in the
declension.*

destroy the patient.---And let these rules suffice with respect to what is to be done before the eruption.

46. As soon as the pustules appear, I examine carefully whether they are of the *distinct* or *confluent* kind; as they differ extremely from each other, tho' both have some symptoms in common. If therefore from the largeness, paucity, and slow eruption of the pustules, the ceasing of the sickness, and other dangerous symptoms, which in the *confluent* species continue after the eruption, they appear to be of the *distinct* kind, I take care the patient be refreshed with small beer, water-gruel, barley-water, &c. in the manner above directed. And if it be summer, the weather exceeding hot, and the pustules few, I see no reason why the patient should be confin'd in bed; but rather that he may rise and sit up a few hours every day, provided the injuries arising from the extremes of heat or cold be prevented, both with respect to the place wherein he lies, and his manner of clothing. For when the patient sits up between whiles, the distemper finishes its course with greater ease, and also more expeditiously, than if he had been constantly kept in bed, which not only prolongs the illness, but likewise promotes the febrile heat, and occasions a painful inflammation upon the rising of the pustules. But if the coldness of the season, or a numerous eruption, makes it necessary for the patient to keep his bed constantly, I take care to prevent his lying warmer, or with more clothes on him, than he used to do whilst in health; and that only a moderate fire be made in the room morning and night, unless it be the winter season. Neither do I require he should lie always in the same place in bed, lest a sweat be raised, which I absolutely maintain, supported both by the reasons above alledged, and by experience, cannot be promoted without very great danger.

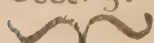
47. In the declension of the illness, when the free exhalation of the *effluvia* proceeding from the *matter*, now changed into *pus*, is prevented by the hardness and dryness of the pustules, it will be proper to give five or six spoonfuls of *canary*, or some other mild cardiac, lest these putrid *effluvia* return again into the blood (q).

H 2

And

(q) To prevent the contents of the pustules in a state of suppuration from entering into the vessels, *Boerhaave* also observes that there is not a nobler remedy than *Canary* wine, drank moderately, e.g. to the

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And in reality at this time, and not before, cardiacs and a warmer and more cordial diet may be allowed; as sugar-sops, oatmeal caudle, &c. Nor will any thing further be needful in the kindly *distinct* species, provided the patient will conform to this temperate method and diet; unless perhaps restlessness, watchings, or other symptoms, threatening a *delirium*, should occasionally require an opiate.

48. This is the true and genuine method of treating this kind of small-pox, and will prevail after my decease, notwithstanding the ill-grounded prejudices of those that oppose it. And tho' I do not deny that abundance have recovered by a quite contrary treatment, yet it must also be acknowledged (and is deservedly to be lamented, if it be considered that this *distinct* kind is not at all dangerous in its own nature) that numbers have died, and that many more would have perished, unless they had been saved by the cold season in which the disease happens, or by bleeding not long before, which is otherwise unnecessary and useless. For this reason therefore, if either thro' the obstinacy of the friends, or the diffidence of the patient, the preceding regimen be opposed, I esteem it safest to bleed, which indeed, tho' it is in its own nature prejudicial in this kind of small pox, inasmuch as it disturbs the separation, and lessens the supplies intended to keep up the eruptions and swelling, yet it makes some little amends for the injuries of the subsequent hot regimen, and therefore renders this method, which I would not use, unless compell'd thereto, less dangerous.

Bleeding
sometimes
necessary.

Why more
rich persons
die than
poor.

49. From what has been said, it will be easy to solve the common difficulty; *viz. whence it happens that so few of the poorer sort die in this disease, in comparison of the rich that are destroyed thereby*; for which indeed scarce any other cause can be assigned, than that by reason of the narrowness of their circumstances, and ordinary way of living, they have not the means of injuring themselves, as the rich have, by a more elegant diet. But this disease has prov'd fatal to abundance more of the common people, since they knew the manner of using *mithridate*,
dia-

the quantity of an ounce, three or four times a day. Opium may be given sparingly, to check the violent motion of the blood and juices. If these avail not, he adds, "I know not what will relieve." *Prax. med. vol. v. p. 319.*

diascordium, *harts-horn drink*, &c. than it usually did in the less learned, but more prudent ages: for at present there is scarce an house without some illiterate, presuming woman, who, to the destruction of mankind, practises an art she never learnt.--And let this suffice with respect to the cure of the *distinct small-pox*.

Chap. 2.

50. But in the *confluent small-pox* there is great danger; for I judge this kind differs as much from the other, as the *plague* does from this, tho' the vulgar, who admit names and words for things, hold the cure of both to be the same. In this kind of disease, which proceeds from a greater inflammation of the blood, more caution is required not to heat the patient; as we observed above, in treating of the former species. But tho' this kind naturally demands greater cooling than the other, yet in order to promote the swelling of the face and hands (without which death must ensue) and the elevation and increase of the eruptions, and likewise because the patient, on account of the painful ulcerations, cannot sit up, 'tis proper he should keep his body, and even his hands, in bed, provided he be lightly covered, and allowed to turn himself therein as he pleases; as we before intimated in treating of the *distinct* species (*r*). And in the declension of the distemper, upon the approach of the *suppurative fever*, he must not only be allowed this liberty, but admonished to make use of it, and must be turned often night and day, to moderate the excessive heat, and prevent sweat, by which the soft humour is discharged, wherewith the *small-pox* should be diluted to render them mild.

Difference between the distinct and confluent small-pox.

Necessity of keeping in bed in the confluent kind.

51. Since therefore, as we remarked above (*s*), a *salivation* constantly accompanies this kind of small-pox, which as it is one of nature's principal evacuations, and is here substituted instead of that which should have been made by pustules, (for the evacuation by pustules does not go on so well in this low and flat sort, as in the other) we must diligently endeavour to keep it at its height, and prevent its stopping too soon, either from the use of heating remedies, or by forbidding the free use of small-beer, or some such liquor. Now as the spitting, in its natural order, is to begin as soon as the

The salivation here to be kept up.

H 3

erup-

(*r*) See above, *Pmr.* 47.

(*s*) See above, *Par.* 13.

Sect. 3.



How promoted.

Opiates excellent for this purpose.

Good effects of them in grown persons.

eruptions appear, and abate on the *eleventh* day, but not vanish entirely till a day or two after; so if it goes quite off before that day, there is danger. For as the swelling of the face, whereby some part of the morbid matter is evacuated, always vanishes on that day, if the salivation stops at the same time, the patient is infected by the variolous matter, now become corrupt, as by a poison; and there being no way left for it to pass off, the danger is imminent, unless perhaps, as it sometimes happens, the swelling of the hands, (which as it comes on later than that of the face, so it goes away more slowly) be so considerable, as to snatch the patient from impending death. The salivation, which is so very advantageous and necessary here, may be much promoted by drinking freely of small-beer, or some other liquor that neither heats, nor excites sweat.

52. But besides these, in order to check the violent ebullition of the blood, in which this sort of small-pox greatly exceeds the *distinct* kind, and to keep up the spitting (the necessary evacuation in this disease) opiates are more proper than any other remedies; and tho' by their incrassating quality they may seem in some measure to hinder the expectoration, yet I have long shaken off that prejudice, and given them in this disease with great success, provided the patient was above *fourteen*. For as the blood of infants and children, who generally sleep tolerably well throughout the course of this disease, ferments more gently, it stands less in need of such a check; and moreover, by the use of this kind of remedies, the looseness, which nature appoints to be an evacuation for children in this kind of disease, is stopt to the detriment of the patient.

53. But in grown persons the frequent use of opiates is attended with the following advantages. (1) By procuring moderate rest they abate the violent ebullition of the blood, and of course prevent a *delirium*; (2) they promote the swelling of the face and hands in a better manner, which is a very considerable natural evacuation in this disease; (3) they keep up and prolong the swelling to its proper natural period; which greatly contributes to the patient's safety, as the swelling of the face often falls before, to the endangering the patient; for the heat of the blood being abated, the inflammatory rays are brought in due time to the hands, face, and the whole surface

surface of the body, according to the nature of the disease; (4) they promote the salivation, which tho' it may be stopt in some subjects for a few hours, by means of so powerful an incrassating medicine, yet the strength being increased by these new helps, nature resumes fresh vigour, and happily finishes the work begun; (5) moreover, I have observed that the spitting, which usually abates about the *eleventh* day, and sometimes earlier, to the great detriment of the patient, by giving opiates a few times has been raised anew, and not ceased before the fourteenth day, and sometimes later. I usually give about fourteen drops of *liquid laudanum*, or an ounce of syrup of white poppies, in a little *couslip-flower water* or some such distilled water; and if either of these medicines be given to grown persons every night after the eruption is over, to the end of the disease, not only no inconvenience, but great service will thence accrue to them, as I have frequently experienc'd. But I judge it proper to exhibit an opiate a little earlier than is otherwise usually done; for it is easy to be observ'd in the worst kind of *small-pox*, that a hot fit, attended with restlessness, anxiety, and other symptoms, generally comes on in the evening, which may in some measure be prevented by administering an opiate at six or seven at night.

When best given.

54. In the next place, since a *looseness* as certainly accompanies the *confluent small-pox* in children, as a *salivation* does the same in grown persons: nature, as we observed above, constantly providing one of these evacuations to expel the morbid matter; I take care by no means to check this looseness, no more than the salivation, both being alike improper. And the unseasonable endeavours of some imprudent women to stop the looseness has prov'd fatal to abundance of infants, whilst they falsely concluded it to be equally dangerous in *this* as in the distinct kind; not knowing that it is only detrimental in that kind where the evacuation is made by pustules, but is here the work of nature searching a passage for the disease to escape (*t*). Disregard-

Danger of checking the looseness here in children.

H 4

ing

(*t*) A looseness says *Hoffman*, even tho' it be considerable is not to be apprehended here, for so far has it been from hindering either the eruption, or the suppuration, and striking the matter in, that I have know it run thro' the whole course of the distemper, without danger. And as *petechial* malignant fevers are frequently terminated *critically* by a looseness, so likewise experience shews

Sect. 3. ing therefore the looseness, and assisting nature, as *Hippocrates* directs, I go on as I begun, advising them sometimes to keep the children in the cradle, and sometimes to take them up, and if they be weaned I allow them the same diet as I before directed for grown persons.

The face to be anointed with oil of sweet almonds in the decline.

55. In the declension of the disease, when the face is stiff, occasioned by the eruptions becoming crusty, hard and dry, I anoint it frequently with *oil of sweet almonds*, as well to ease the pain thence arising, as to promote a freer exhalation of the hot *effluvia*. I use no endeavours to prevent the pitting of the face, inasmuch as oils, liniments, &c. only cause the whole scurf to scale off more slowly (*u*), which falling off, and coming on again alternately, after the patient has quitted his bed, and is pretty well recovered, is gradually succeeded by unseemly scars. But the patient need not be very anxious about these, when by reason of a previous temperate regimen, the eruptions, having been little irritated, have contracted no caustic quality.

A different method sometimes necessary.

56. Now, tho' this method, provided it be carefully and prudently suited to particular circumstances, will prevent the abovementioned preternatural and dangerous symptoms, and render the disease very gentle and safe, yet in some cases, which I shall here subjoin, I find it necessary to use a different method, in order to overcome and remove them, from what cause soever they arise before I am called.

The face, how made to swell, in the distinct kind.

57. First, therefore, if in the *distinct* kind, by means of an over-hot regimen, and continual sweats, the face does not swell on the *eighth* day, but is flaccid, and the spaces between the eruptions look pale, whilst these in the mean time shew themselves in great abundance; besides using my utmost endeavours for a more temperate regimen, and to check the violent motion of the blood, I immediately

that the same happens in the small-pox. Elsewhere he says, that in a dry summer, the small-pox is particularly inflammatory, and readily accompanied with a looseness, which is absolutely not to be stop'd, but only moderated by proper remedies; observing to avoid the heating regimen and warm medicines, and likewise cooling the body, and refrigerating medicines. Neither, adds he, is a looseness detrimental, when the *small pox*, by reason of the irregularity of the seasons, is complicated with *petechia*, but it is rather a wholesome remedy, and admirably purges off the malignant and excrementious humours.

(1) Unctuous and oily applications block the pores, hinder perspiration, and make the pits much more visible.

ly direct an opiate to be given, which by gently procuring sleep, (unless the brain be over-heated) and consequently moderating the tumult raised in the blood, seasonably determines it, together with the heat, to the face, as the nature of the disease demands.

58. But if the mischief hence arising has proceeded so far, that the sweat, which had hitherto flowed plentifully, ceases spontaneously, the patient is seized with a *delirium*, complains of great sickness, and makes urine often in a small quantity; in this case, the danger of death being imminent, I conceive he can only be relieved, either by giving opiates freely, or taking away a large quantity of blood, and exposing his body to the open air. Nor indeed will what I have now proposed seem so imprudent and unreasonable, upon attending to those who have escaped imminent death, by a plentiful bleeding at the nose, suddenly arising. Moreover it must be considered that, in this dangerous extremity, death does not ensue because the eruptions strike in, for they appear red and plump, even when the patient is expiring, but because the face does not swell. Now whatever tends to abate the heat of the blood, (and I conceive none will deny that bleeding and moderate cooling have this virtue) must necessarily help to promote the swelling of the face, as much as the use of opiates, and apparently for the same reasons.

59. But I would not have this understood as if I would advise bleeding immediately in every *delirium* happening in the *small-pox*, since no symptom oftener occurs in this disease; but (1) in that only which happens because the face does not swell, that is, in the *distinct* kind, the eruptions at the same time being pretty numerous; or (2) where the motion of the blood is become so violent and immoderate by means of a very hot regimen, and the use of cardiacs, as to render it unsafe to wait till it can be reduced to a due temper by opiates, and other medicines productive of the like effect. When the case is thus circumstanced, the physician, consulting his duty, rather than a precarious reputation, ought either to bleed, as above intimated, or order the patient to be refreshed with the open air; and to obtain the end here it has frequently seem'd sufficient to me, for the patient to rise, and sit up a while in his raving fit, by which expedient I have saved several from death. And besides those I have

Chap. 2.

Opiates or
bleeding,
when requi-
red.

Further ex-
plained
with respect
to bleeding.

Sitting up a
while re-
commended
in a deli-
rium.

Sect. 3.



have seen, there are numberless instances of persons who by this means have been snatched from imminent danger. For some delirious persons deceiving their nurses, (and those who are light-headed use wonderful contrivances) and getting out of bed, have remained exposed to the cold air, even in the night-time, and others again, either secretly, unawares, or by intreaty have procured cold water to drink, and thus by a happy mistake saved their lives, when despaired of.

*The case of
a person re-
covered by
the like
treatment.*

60. I shall here set down the history of a case, which I had from the person concerned. He told me that when he was a young man, he went to *Bristol*, and was there seiz'd with the *small-pox* about *midsummer*, followed soon after by a *delirium*. His nurse, going into the city, left him in the mean while to the care of some other persons, intending to be back soon; but making a pretty long stay, the patient in the interim died, as the attendants thought; who considering the heat of the season, and his corpulency, that the body might not smell, took it out of bed, and laid it naked on a table, throwing a sheet over it. The nurse at length returning, and hearing the ill news, enter'd the room to behold the sad spectacle, and immediately throwing by the sheet and looking on his face, she imagined she saw some small signs of life, and therefore put him to bed again directly, and using some means or other she brought him to himself, and he recovered in a few days.

*A garga-
rism to be
used when
the saliva
is hard and
viscid.*

61. But to resume our subject: if the *saliva*, in the *confluent* small-pox, be so hard and viscid by the preceding heat as to endanger suffocation, which, as we observ'd above, commonly happens on the *eleventh* day; a gargarism must absolutely be used, and great charge given to syringe the throat with it night and day. *Small-beer* or *barley-water*, mixed with *honey of roses* may be employed for this purpose, or the following.

*The garga-
rism.*

Take of bark of elm, six drams; liquorise root, half an ounce; twenty ston'd raisins; red roses, two pugils; boil them together in enough water to leave a pint and half; in which, when strain'd off, dissolve, simple oxymel and honey of roses, of each two ounces: mix the whole for a gargarism.

But if the patient has been treated in a proper manner,
the

the salivation, even tho' it has begun to abate will so effectually answer its end, as to render this remedy needless. And in reality when the patient is every moment in danger of suffocation, oppressed with a *stupor*, and breathes with the utmost difficulty, 'tis not safe to trust to this remedy. In this case I have sometimes seasonably and successfully given a vomit of the infusion of *crocus metallorum*, in a larger dose than ordinary, viz. to an ounce and half; because the *stupor* is so considerable that a smaller quantity will not operate, but by disturbing those humours which it cannot eject, greatly endangers the life of the patient. Neither can we wholly trust to this remedy, and (which is truly to be regretted) we are hitherto unprovided with a more certain and effectual one to conquer this dreadful symptom, which alone destroys most of those who die on the *eleventh* day in this kind of *small-pox*.

*A vomit
sometimes
successful in
this case.*

62. As the other symptoms happening in this distemper are prevented, so likewise most of them are relieved by a temperate regimen. For instance as the *delirium* abovementioned, proceeding from the too great heat of the brain, is removed by some way cooling the blood, so by the same means a *coma* is easily remedied, which seems to be a quite different symptom from the former, and arises from an obstruction of the *cortical* part of the brain, whilst hot *effluvia*, proceeding from the blood attenuated by a hot regimen and heating medicines, are violently driven thither in great abundance.

*Advantages of a
temperate
regimen.*

*A coma
cured by
cooling the
blood.*

63. By cooling the blood in this manner I have seen purple spots removed; but have not yet been able by this or any other method to stop *bloody urine*, or a *violent flux of blood from the lungs*, but so far as I have hitherto observed both these hæmorrhages prognosticate certain death.

*And purple
spots also.*

64. In a *suppression of urine*, which sometimes happens in the young and vigorous from the great confusion and disorder of the spirits, subservient to this excretion, by reason of the immoderate heat and agitation of the blood and juices, I have had recourse to all the kinds of diuretics, but nothing has succeeded so well with me as taking the patient out of bed, who after walking twice or thrice cross the room, held up by the attendants, has immediately voided urine pretty plentifully to his great relief. To confirm my assertion, I might here appeal

*A suppression of urine
how caused
and remedied.*

to

Sect. 2. to some physicians of my acquaintance, who by my advice have directed the same expedient to be used, and found it answer the end.

Cardiacs
when parti-
cularly to be
given in the
distinct
small-pox.

65. But the symptoms proceeding from the striking in of the *variolous* matter, by intense cold, or unseasonable evacuations, must be remedied by cardiacs, and a suitable regimen; which, however, must not be continued longer than these symptoms last. The principal of these are, a *depression*, or *sinking of the pustules*, and a *looseness*, both in the distinct kind. For in the *confluent* kind neither the sinking of the pustules threatens danger, this being the nature of the disease, nor a looseness in children because it promotes their recovery. In either case 'tis highly proper to give a cordial draught, made of some *proper distilled waters*, mixed with *diascordium*, *liquid laudanum*, &c. not only in order to remove the above-mentioned symptoms, but at any time of the disease, if the patient complains of a pain at the heart and sickness. But to speak the truth, the symptoms of this kind very rarely happen, in comparison of those arising from the other more fatal, tho' less censured, extreme. And in reality I judge the rumor which has so much prevailed, of the frequent striking in of the eruptions, to proceed from hence, that such as have observed the depression of them in the *confluent* kind, esteem'd it to be a striking in of the *variolous* matter from taking cold, whereas here, 'tis only the nature of the disease; and they suspect the same in the *distinct* kind, because they look for the eruption and increase of the pustules before the due time; not having sufficiently attended to the time wherein nature usually finishes the suppuration of this sort of small-pox.

When and
where bleed-
ing should
be used.

66. When the patient begins to recover, and the eruptions scale off, and he has eat flesh a few days, for example, the *one and twentieth* day, I judge it requisite to bleed in the arm, if the disease has been violent: for the inflammation communicated to the blood by the *small-pox*, whether in grown persons, or children, equally indicates bleeding, as the foulness collected in the habit does purging; as appears sufficiently both from the colour of the blood taken away after a severe small-pox, which exactly resembles that of pleuritics, and likewise from the great inflammations that fall on the eyes after it is gone off, and other pernicious effects, arising from the blood

blood over-heated and vitiated thereby. Hence also it follows that such as enjoyed a good state before the attack, are afterwards afflicted with a defluxion of sharp hot humours upon the lungs, or some other part for the remainder of life. But if the pustules were few, bleeding is unnecessary: after bleeding I purge three or four times.

67. to these observations let me add, that after the patient has been long recovered from the *confluent* small-pox, and rises every day, there sometimes happens a troublesome swelling of the legs, which either goes off spontaneously after bleeding and purging, or is easily cured by the use of fomentations, made of *emollient* and *discutient* herbs, boiled in *milk*; as the leaves of *mallows*, *mullein*, *elder*, *laurel*, and *camomile* and *melilot* flowers. --- And let this suffice for the history and cure of the *small-pox*, that prevailed for these two years, which I chose to call *legitimate* or *regular* in order to distinguish them from the other kinds that succeeded them.

The swelling of the legs how remedied.

C H A P. III.

The continued Fever of the Years 1667, 1668, and part of 1669.

I proceed now to treat of the *fever* that prevailed during this *variolous constitution*, beginning and ending with the *small-pox*. It had the following symptoms. (1) A pain below the pit of the stomach, with an extreme soreness of the part, so that it could not bear the touch, which symptom I do not remember to have observed in any other disease besides this fever and this kind of small-pox; (2) a pain in the head, a heat of the whole body and *petechiæ*; (3) little thirst, (4) the tongue like that of a healthy person, unless that it was sometimes white, but very rarely dry, and never black; (5) profuse spontaneous sweats in the beginning, which afforded no relief, and, being promoted by a hot regimen and hot medicines, soon endangered a *delirium*, augmented the number of the *petechiæ*, and rendered all the other symptoms more violent; (6) a laudable separation in the urine from the beginning of the illness, that

The fever of this Constitution described.

Sect. 3. that afforded hopes of recovery, but did not relieve the patient more than the abovementioned sweats; (7) this disease, by wrong management, generally proved very obstinate, neither terminating by way of *crisis*, nor spontaneously in the manner of other fevers; but continued for 6 or 8 weeks, accompanied with violent symptoms unless death interposed, and put a stop to it sooner; (8) when no considerable evacuation had preceded, and cooling julaps had been used, a pretty plentiful salivation some times arose towards the decline, whereby the disease was carried off beyond expectation, provided this discharge was not checked by evacuations, or heating medicines.

Nearly resembled the small pox.

2. Now as this fever depended upon that epidemic constitution of the air, which at the same time produc'd the small-pox; so in effect, it seem'd to be nearly of the same nature therewith, except in those symptoms which necessarily depended on the eruption. For they both attacked in the same manner, and were attended with the like pain and soreness of the parts below the pit of the stomach, there was the same colour of the tongue, and consistence of the urine, &c. The same profuse sweat arose in the beginning, and the same tendency to a salivation when the inflammation was violent, as accompanied the small-pox, when it prov'd of the *confluent* kind. Since therefore this fever did also prevail chiefly at the time the small-pox was more epidemic than I had ever known it here, no one can doubt their being of the same tribe. This I certainly know that all the practical indications were manifestly the same in both diseases, those excepted, which the eruption of the small-pox, and the symptoms thence arising, afforded, which could not be expected in this fever, because it was not attended with an eruption. And this indeed appeared very evident to me from the accurate observations I made in treating such as had either of these diseases. For these reasons I must be allowed to call this a *variolous fever* (a), not because I affect the giving new names

Therefore called a variolous fever.

(a) In 1729 in the month of July, the *small pox* prevailed much at *Plymouth*; and during this month a *slow putrid fever*, which remitted towards the end, and at length intermitted, became very epidemic there. It chiefly affected the stomach and loins, as if the small-pox was coming on, and was attended with an oppression of the breast, sighing, and great faintness. Such a disease it was perhaps

names, to things, for no one can dislike that more than I do, but in order to distinguish it from other fevers and on account of the great similitude which it bears to this species of the small-pox. Chap. 3.

3. But how nearly soever that fever resembled the small-pox, no judicious person will conclude that it ought to be treated in the same manner; because in the small-pox the inflamed particles are thrown out upon the skin, by means of little abscesses, whereas in the present fever they are discharged by salivation. For the profuse sweats at the beginning were *symptomatical*, not *critical*, nature seeming to have intended no other evacuation in this disease than a spitting: which yet she generally checks, either (1) by a looseness, which frequently proceeds from inflammatory rays, (b) conveyed thro'

*Required a
different
treatment
from the
Small-pox.*

haps that Sydenham entitled a *variolous fever*. It chiefly attack'd children, women, young, or weak persons. The blood taken away was seldom viscid; the urine mostly crude, thin, and frequently let fall a cineritious, slimy and imperfect sediment, resembling flower, called by Hippocrates a *branny sediment*: the more perfect the sediment was, the more hopes there was of recovery. The tongue was not very dry, but appeared to be covered with a kind of viscous brownish *mucus*. Towards the declension of the distemper a looseness, or sometimes a dysentery, especially if a vomit had been omitted in the beginning, became very immoderate, and even proved fatal to some.

Bleeding, unless in the beginning, seldom did service; vomits were highly necessary, and afterwards frequent blisters, gradually applied, gentle cardiacs, cinnabar, opiates, jack-whey, and diluting subacid liquors, drank plentifully, proved very beneficial. As soon as the signs of *coction* appeared, namely a sediment in the urine, and a remission of the fever, the bark admirably assisted the cure. If a coma or a delirium happened in the state of the disease, there was occasion to set cupping-glasses on the neck and shoulders, to bleed, and immediately apply blisters, especially behind each ear, and to the head, and forthwith inject a laxative glyster.

In the declension, lenient purges, especially of *rhubarb*, advantageously carried off the putrid remains of the disease; but strong purgatives, or *aloetics* had very dangerous effects; for by the unseasonable use of these we have known the blood impoverished, and dreadful gripings occasioned: moreover, after a purgative, tho' it was very gentle, a paregoric draught was altogether necessary.

Numbers were seized with this distemper, but few died of it. *Huxham de aere et morb. epid. p. 33, 34.*

(b) The expression the author here uses of *inflammatory rays*, conveys no clear idea of the cause of a looseness; these rays not being sufficiently understood, nor their existence in the blood clearly proved. They are too subtle one would think to occasion an irritation of the bowels, and too immaterial to furnish supplies for the

Se^t. 3. thro' the mesenteric arteries into the intestines, and irritating them to discharge their contents, (as is usual also in pleurifies, and other inflammatory fevers, by reason of the great commotion of the blood and the hot particles, endeavouring to be cooled); or (2) by the profuse sweats which by the appointment of nature equally accompanied this fever and the small-pox; and these sweats being *symptomatical*, the salivation, that would otherwise have prov'd *critical*, was derived another way, whence, unless art suggested some other evacuation, the disease continued for some weeks, and did not come to concoction in the manner of other fevers.

4. But to proceed a little farther: in order to come at a better knowledge of the nature of this fever, and establish the curative indications on a solid foundation, it must be carefully noted that in the fever that prevailed during the *epidemic constitution* which gave rise to *intermittents*, the matter to be separated from the blood was so thick, that it could not be separated without previous digestion, fitting it for a proper evacuation, at an appointed time, either by means of a *plentiful perspiration*, or a *critical looseness*; so that the physician had nothing more to do than to suit the treatment in such manner to the nature of the disease, as on the one hand to prevent its rising too high, and on the other, its sinking too low, so as to be unable to expel the noxious matter; a fever being the instrument of nature to perform this secretion.

*The matter
in the
plague very
subtile.*

5. Again, there is likewise in the plague a matter to be separated from the blood, but as the parts thereof are very subtile and inflammable, (so that sometimes when they are violently irritated they pervade the blood like lightning, and can raise no ebullition therein) it passes thro' the mass in a moment, and is only stop'd in a gland, or some external part, where, being entangled, it occasions an inflammation, and afterwards an impostume. Now an impostume is the instrument of nature whereby she expells whatever injures the fleshy parts, as a fever is her instrument to carry off whatever is prejudicial to the blood. In this case therefore

the discharge. The looseness therefore should rather seem to proceed from sharp humours strained thro' the mesenteric arteries to the intestines, and irritating them to frequent ejections; whence both the irritation and the discharge may be easily accounted for.

therefore 'tis the business of the physician to assist nature in a proper matter in her endeavours to discharge the pestilential matter by these imposthumes; unless perhaps it should seem more advisable to substitute some other evacuation in its stead, which he might be able to regulate with greater ease and certainty than that of nature. In the same manner does nature proceed in expelling the variolous matter, which is a grosser species of inflammation, and discharged by means of numerous eruptions, instead of carbuncles and buboes, &c. so that in this case also the curative indications are to be so directed, as to promote the evacuation by the eruptions in a regular manner.

Chap. 3.

The small-pox a grosser species of inflammation.

6. But as in this kind of inflammatory fever we meet with no such gross matter requiring previous digestion before it can be expell'd, as in the intermitting fever above described, so it is a fruitless endeavour to promote the ebullition in order to procure this kind of digestion. On the contrary, this procedure endangers the increasing a disease the essence whereof consists in a very violent inflammation, and must likewise be improper here, because nature has appointed no evacuation for this fever by eruptions, as we see in *pestilential fevers* and the *small-pox*; tho' in other respects it resembles the latter. Hence it follows that the whole of the cure necessarily consists in checking the inflammation, by evacuations, and cooling remedies. Having this end in view, I attempted the cure of this fever by the following method, to which it readily yielded.

No such gross matter in this fever.

7. Being call'd to a patient, I immediately directed bleeding in the arm, if great weakness, or especially old age did not contra-indicate, and ordered the operation to be repeated every other day, for twice, unless the signs of recovery render'd it unnecessary. On the intermediate days I prescribed a glyster of milk and sugar, or the like to be injected; and directed the following julap, or one of the same kind, to be frequently used throughout the course of the disease.

Its cure.

Take of distilled waters of purslain, lettice, and coulis flowers, of each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce; mix them together for a julap; and let three ounces of it be taken four or five times a day, or at pleasure.

The cooling julap.

Sect. 3.



I allowed whey, barley-water, and such liquors for common drink, and for diet, barley-broth, water-gruel, panada, roast apples, &c. but I forbad chicken broth, or any kind of broth made of flesh.

*The danger
of keeping
the bed in
this fever.*

8. I chiefly recommended that the patient should not keep his bed constantly, but rise every day, and sit up a good part of the day, having observed in this fever, as in the pleurisy, rheumatism, and all other inflammatory disorders, wherein bleeding and the cooling regimen are the principal remedies, that neither the most cooling medicines, nor frequent bleeding can do service, whilst the patient lies perpetually in bed, and is inflam'd by the heat thereof, especially in the summer season. And upon this account the sweat which flow'd at times did not deter me from this method of cooling, both by giving refrigerating medicines, and forbidding a constant confinement in bed. For tho' one might reasonably expect great advantages in pursuing an indication taken from what generally proves serviceable, yet I have found, by constant experience, that the patient not only finds no relief, but contrariwise is more heated thereby; so that frequently a *delirium*, *petechiæ*, and other very dangerous symptoms immediately succeed such sweats, which seem to arise more from wrong management than from the malignity of the disease.

*The method
of cure vin-
dicated.*

9. If it be here objected that this method of curing fevers runs directly counter to the theory of authors, who unanimously maintain that a fever is most properly and naturally cured by sweat; besides the testimony of a never failing experience, which is always on my side, in the cure of this particular fever, these reasons also favour my practice: First, I imagine that those who contend for promoting sweat in order to take off a fever, mean such a one as appears after the previous digestion of some humour lodg'd in the blood, in preparing and moulding of which, that it might be discharged by sweat, nature has employ'd some certain fixt time. But here the case is quite otherwise, for profuse sweats arise in the beginning of the disease, and alone make a considerable part thereof; and, if we may judge from all the phenomena, this disease seems to proceed rather from the sole heat of the blood, than from some humour concealed therein, to be expell'd, after due concoction, by sweat. But granting there is such an humour to be found in
this

this fever, as requires to be ripened by digestion, which is the case in many other fevers; yet to what purpose is it to comply with nature (whose violent efforts 'tis our business to moderate) by promoting these sweats with cardiacs, or a hot regimen, when she exerts herself too much already, since the trite axiom of *Hippocrates*, namely, that *concocted and not crude matters are to be evacuated* (c), relates to sweating as much as to purging?

10. Whilst this constitution prevailed I was called to Dr. *Morice*, who then practised in *London*, and now in *Petworth*. He had this fever, attended with profuse sweats, and numerous *petechiæ*. By the consent of some other physicians, our joint friends, he was bled, and rose from his bed, his body being first wip'd dry. He found immediate relief from the use of a cooling diet and medicines, the dangerous symptoms soon going off, and by continuing this method recovered in a few days.

*Exemplified
in a case.*

11. But to resume our subject: neither did the looseness, which often accompanied this fever, hinder my proceeding closely in the abovementioned method; having experienc'd that nothing proved so effectual in stopping this discharge, as bleeding, and cooling the blood by barley-water, whey, and other things above enumerated; inasmuch as this looseness proceeded from inflammatory vapours, separated from the blood thro' the mesenteric arteries into the intestines, and vellicating these parts.

*Bleeding
and cooling
medicines
best to stop
the looseness.*

12. In reality this method succeeded admirably with me in the cure of this disease, and seem'd better adapted to it than any other. I have however sometimes seen a very different method used with success, namely cardiacs and the hot regimen, but the patient always appeared to me to run great hazards unnecessarily. For by this means the *petechiæ*, which were otherwise very few, became exceeding numerous, the thirst, that was generally inconsiderable, was extremely increased, and the tongue, that was otherwise moist, and not much unlike that of healthy persons, except, as we said above, that it was whitish, appeared dry and crisp, and frequently turn'd black. Lastly, even the sweats, which they endeavoured to force by means of cardiacs, were,

*The hot re-
gimen much
more dan-
gerous.*

Sect. 3.

at length, entirely stopt thereby. For too large a quantity of *serum* being drained off by the cutaneous ducts, the blood became unable to furnish more of it, and the fluid being quite wasted, wherewith it should have been diluted, a dryness of the skin, and a stoppage of the pores ensued, (contrary to the ordinary course nature used to observe in this fever) till at length the blood, being again replenished by the moisture received from the aliment taken in, expels this *serum* together with the fever, partly by medicine, and partly by the force of the fever itself. But in reality this *crisis* was too forced, and too dangerous, and, which is still worse, it seldom happened.

*This fever
often termi-
nated by a
salivation.*

13. But since, as we observ'd above, the solution of this *fever*, and of the *small-pox* likewise, which so nearly resembles it, was frequently effected by a salivation, which always prov'd beneficial, so that when it flow'd copiously, I have known both the purple spots and fever vanish; so upon this account, when the salivation begins, no evacuation must be made, either by bleeding or glysters, since by the use of either the humour may be carried another way. But whey and other cooling things promote the necessary business of salivation; as, on the contrary, cardiacs, and all heating things, by thickening the matter, check its discharge.

*The rise of
the epide-
mic loos-
ness.*

14. Before this fever went quite off, and particularly in the year 1668, a *looseness* became epidemic, without any manifest sign of a fever, for the constitution at this time inclin'd to the *dysentery*, which prevail'd in the following year, whereof we shall treat in the next section. Nevertheless, I judg'd this looseness to be the same fever with the then reigning variolous fever, and that it only differed in form, and appear'd under another symptom. For having observ'd that a chilness and shaking did likewise ordinarily precede this looseness, and further, that it generally arose from the same cause with the then reigning fever, it seem'd probable to me that this fever, with the looseness, proceeded from inflammatory rays turned inwards upon the intestines, and irritating them to this discharge; whilst the blood, in the mean time, by this revulsion, was freed from the ill effects these rays would otherwise have occasion'd, without any visible external sign
of

of a fever. To this we may add, that the parts below the pit of the stomach were so tender as not to abide the touch, which symptom, as we mention'd above (*d*) happen'd in the small-pox and fever of this constitution; and the same pain and tenderness of the flesh often reach'd to the *epigastrium*, and sometimes there was an inflammation, which ended in an imposthume, and destroy'd the patient: all which apparently shew'd this looseness to be of the very same nature and essence with the then reigning fever: and this opinion of mine was further confirm'd from the good success, which bleeding and the use of a cooling regimen always had in stopping this looseness, for it readily yielded to this method, which is the same we use in the cure of the variolous fever, as we have frequently mention'd above. But when it was treated in a contrary manner, either (1) by giving *rhubarb*, and other *lenient purgatives*, to carry off the acrimonious humours, suppos'd to irritate the intestines to these discharges; or (2) by administering *astringents*; this disease, tho' naturally gentle, frequently prov'd mortal, as the bills of mortality of the current year sufficiently testified. --- And let this suffice for the epidemic diseases that depended on this constitution.

Chap. 4.

Bleeding
and a cool-
ing regimen
successful in
stopping it.Lenient pur-
gatives and
astringents
extremely
prejudicial.

S E C T. IV. C H A P. I.

The epidemic constitution of part of the year 1669, and of the years 1670, 1671, 1672, at London.

IN the beginning of *August*, 1669, the *cholera morbus*, the *dry gripes*, and likewise a *dysentery* that rarely appear'd during the ten preceding years, began to rage. But tho' the *cholera morbus* prov'd more epidemic than I had ever known it before, yet nevertheless it terminated this year in *August*, as it always does, and scarce reach'd the first weeks of *September*. But the dry gripes continued to the end of *autumn*, and accompanied the dysentery, and prevailed more generally than that distem-

The diseases
that ap-
peared in
August
1669.

I 3

per. 1

(d) See Sect. III. Chap. II. Par. 2. and above, Par. 1.

Sect. 4. per. But upon the coming in of *winter*, they likewise vanish'd, and appear'd no more throughout the subsequent years wherein this constitution prevail'd, whereas the dysentery became more epidemic. Now I judge the cause of this to have been, that the then reigning constitution had not yet so perfect a tendency to a dysentery as to be able to produce all those symptoms in every subject, which affect such as are seiz'd with this disease: for in the following *autumn*, when the gripes return'd, the *true dysentery* soon appear'd, accompanied with every pathognomonic symptom.

The rise of
the dysentery
fever.

2. Between these gripes and the abovemention'd dysentery, which rag'd very universally, a new kind of fever arose, and attended both diseases, and not only attack'd such as had been afflicted with either of the former, but even those who had hitherto escap'd them, unless that sometimes, tho' very seldom, it was accompany'd with slight gripings, sometimes with stools, and at others without. Now as this fever in some measure resembled that which frequently attended the abovemention'd diseases, it may be distinguish'd from others, by the title of the *dysenteric fever*; especially since, as we shall afterwards shew, it only differ'd from the genius and nature of the dysentery in this particular, that it had not those discharges which always accompany the dysentery, nor the other effects necessarily occasion'd by this evacuation. Upon the approach of winter the dysentery vanish'd for a time, but the dysenteric fever rag'd more violently; and a mild *small-pox* also appeared in some places.

The measles
appear'd in
January,
1670.

3. In the beginning of the following year, namely, in *January*, the *measles* succeeded, and increasing every day till the vernal equinox, suffered few families, and particularly no children, to escape. But from this time they abated nearly in the same degree they had increased, and appeared no more throughout all those years wherein this constitution prevailed, excepting only the following year, in which they seized a few at the same time they arose in the preceding year.

And introduced an
anomalous
small-pox.

4. This species of the *measles* introduc'd a kind of *small-pox*, which I was hitherto unacquainted with, so that to distinguish it from the other kinds I chuse to entitle it the *anomalous* or *irregular small-pox* of the *dysenteric constitution*, because of its irregular and uncommon

common symptoms, which differed considerably from those of the *small-pox* of the foregoing constitution; as will appear hereafter, when we come to give the history thereof. This *small-pox*, tho' not near so common as the measles, attack'd several persons, till the beginning of *July*, when the dysenteric fever prevail'd, and became epidemic. But upon the approach of autumn, namely, in *August*, the dysentery return'd, and made a greater devastation than in the preceding year, but it was check'd by the winter's cold, as before: and these being conquered, the dysenteric fever and *small-pox* rag'd the winter throughout.

The course of the diseases of 1670.

5. Towards the beginning of *February* in the following year, *intermittent tertians* arose, whence both diseases became less frequent. And tho' these tertians were not very epidemic, yet they prevailed more generally than any I had ever seen at any other time since the close of that constitution, which, as we before observed, had so remarkable a tendency to produce them (a). But these, according to the manner of vernal intermittents, went off immediately after the summer solstice. In the beginning of *July* the dysenteric fever again resum'd the station it held in the preceding years; and towards the decline of autumn, the dysentery returned a third time, but did not rage so much as in the immediately foregoing year, wherein it seem'd to have arrived at its height; but upon the approach of winter it vanished, and the dysenteric fever and *small-pox* prevailed during the rest of that season.

Intermittent tertians arose in Feb. 1671.

The order in which the epidemic diseases proceeded during 1671.

6. We observed above, that at the beginning of the two preceding years two remarkably epidemic diseases rag'd, (e. g. the *measles* at the beginning of 1670, and *intermittent tertians* at the beginning of 1671, and prevailed so considerably as to over-power the *small-pox*, and prevent its spreading much in the beginning of these years. But in the beginning of 1672, when those obstacles to its progress were removed, and this distemper reign'd alone, it, of course, proved very epidemic till *July*, when the dysenteric fever again prevail'd, but soon gave place to the dysentery, which returned a fourth time in *August*, and was then not only less frequent but attended with milder symptoms than in the former years. Moreover the *small-pox* likewise attack'd a few, so that it was not

1672.

Sect. 3.



easy to distinguish which of the two diseases prevailed. I conceive indeed that the constitution of the air, having a less tendency to produce the dysentery, render'd the small-pox powerful enough to equal it, otherwise than it happened in those years wherein the dysentery proved extremely mortal in *August*. The winter, as usual, put a stop to the dysentery, but the fever and small-pox remained, and the latter, according to its nature, became the chief disease, and continued all winter, and attack'd a few in the following spring, and likewise in the beginning of summer; but it was considerably milder than this kind had been before.

7. But when I affirm that one epidemic disease is expell'd by another, I do not mean that the yielding disease becomes quite extinct, but only less frequent; for during this constitution each disease appeared even in that season which conspir'd less therewith. For instance, the dysentery, tho' it be a disease particularly belonging to *autumn*, did perhaps attack a few in the spring, but very rarely.

How the
diseases suc-
ceeded each
other dur-
ing this
constitution.

8. We have therefore sufficiently prov'd that, during the course of this constitution, the dysenteric fever prevailed in the beginning of *July*, in which month *autumnal* fevers as certainly arise, as *vernal* ones do in *February*. But upon the approach of autumn the dysentery succeeded it, which, strictly speaking, is an autumnal disease; and this being overcome by the winter, the dysenteric fever and the small-pox prevailed, which last distemper continued all that winter, the next spring, and ensuing summer, till the return of *July*, when it was expelled by the epidemic dysenteric fever.---And these were the revolutions that happened whilst this constitution lasted.

Every gene-
ral constitu-
tion has its
peculiar pe-
riods.

9. It must further be observed, that as each epidemic disease is attended with its periods of increase, height, and decline, in every subject, so likewise every general constitution of years that has a tendency to produce some particular epidemic, has its periods, according to the time it presides; for it grows every day more violent, till it comes to its height, and then abates nearly in the same degree, till it becomes extinct, and yields to another. But then with respect to the symptoms, they are most violent in the beginning of the constitution, after which they gradually abate, and
in

in the close thereof, are as mild as the nature of the disease, whence they proceed, will give leave: which appears manifest in the dysentery and small-pox of this constitution, as we shall presently shew more at large. I proceed now to treat particularly of the diseases of this constitution, according to the order in which they proceeded.

C H A P. II.

Of the Cholera Morbus of the Year 1669.

I. **T**HIS disease, as we before said, was more epidemic in the year 1669, than I ever remember to have known it in any other. It comes almost as constantly at the close of *summer*, and towards the beginning of *autumn*, as swallows in the beginning of *spring*, and cuckoos towards *midsummer*. There is also an indisposition caused by a surfeit, which happens at any time of the year, which with respect to its symptoms resembles the *cholera morbus*, and yields to the same treatment, and yet it is of a different kind. The *cholera morbus* (a) is easily known by the following signs:

When the cholera morbus arises.

(1) im-

(a) This distemper is defined, “ a preternatural inversion of the peristaltic motion, or a convulsive contraction of the stomach and bowels, occasioned by an acrimonious and caustic matter of different kinds therein contained, and accompanied with an immoderate discharge of bilious matters both upwards and downwards.”

It is seated in the whole volume of the stomach and intestines, but especially in the *duodenum*, and bilious ducts, as appears by the vomitings and stools, which are generally mixt with bile. That the *duodenum* is the chief place where such mixture is made, is further manifest, partly, from its circumvolutions and windings, and partly, from the flowing of the bile and pancreatic juice from the *ductus cholidochus* into this intestine, whence it seems well adapted to produce and lodge the acrimonious matter here discharged. It differs from a bilious looseness in being constantly attended with vomitings, and a greater degree of danger.

This distemper may proceed from (1) poison, (2) strong emetics, or purgatives, (3) diet, which is apt to ferment, and readily corrupts, and also (4) from a violent fit of anger.

It generally proves of short duration, terminating the *third*, or *fourth*, or sometimes, but very rarely, the *seventh* day, beyond which it never lasts, unless it turns to some other disease.

For the most part it proves mortal, no distemper, except perhaps the *plague* and *pestilential fevers*, being so suddenly destructive as the *cholera*, especially when it attacks children, aged persons,

Seçt. 4. (1) immoderate vomiting, and a discharge of vitiated humours by stool, with great difficulty and pain; (2) violent pain and distension of the *abdomen* and intestines; (3) heart-burn, thirst, quick pulse, heat and anxiety, and frequently a small and irregular pulse; (4) great *nausea*, and sometimes colliquative sweats; (5) contraction of the limbs; (6) fainting; (7) coldness of the extremities, and other like symptoms, which greatly terrify the attendants, and often destroy the patient in twenty four hours. There is likewise a dry cholera (*b*), occasioned by a *flatus*, which passes upwards and downwards, without retchings or stools; but I remember to have seen only a single instance of it, at the beginning of the present *autumn*, whereas the former species was very common.

Its symptoms.

The dry cholera extremely rare.

Purgatives and astringents bad in the cholera morbus.

2. Much consideration and experience have taught me that to endeavour on the one hand to expel the sharp humours which feed this disease by *purgatives*, would be like attempting to extinguish fire with oil, as the most lenient cathartics would increase the disturbance, and raise new tumults. And, on the other hand, to check the first effort of the humour in the very beginning, by *opiates* and other *astringents*, whilst I prevented the natural evacuation, and forcibly detained the humour in the body, would doubtless destroy the patient by an intestine commotion, the enemy being pent up in the bowels (*c*).

3. Let

or those who have been debilitated by a long illness. The more corrosive the matter discharg'd is, and the more violent the thirst and heat, so much the greater is the danger; and if black bile mixt with black blood be voided, it denotes certain death, according to *Hippocrates*. See *Hipp. Aph. Lib. IV. Aph. 22*. An exorbitant discharge of green humours both upwards and downwards, faintings, a hiccup, convulsions, coldness of the extremities, cold sweats, a small intermitting pulse, and the continuance of the other symptoms after the looseness and vomiting cease, are esteem'd mortal signs. But there is hopes of recovery if the vomitings stop, sleep succeeds, and the patient appears to be relieved; and also if the disease be prolong'd beyond the *seventh* day.

(*b*) This is a considerable distension of the stomach and bowels by flatulent vapours, which are plentifully discharged both upwards and downwards, with extreme anxiety; a remarkable instance of \otimes may be found in *Act. Med. Berolin. dec. II. Vol. III. p. 73*.

(*c*) The general indications of cure in this disease are, (1) to correct and soften the acrimonious peccant matter, and fit it for expulsion, and, if there be occasion, to expel it by art; (2) to check the violent motions in a proper manner; and (3) to strengthen the weaken'd nervous parts.

When

3. Let a chicken be boiled in about three gallons of spring-water, so that the liquor may scarce taste of the flesh. Several large draughts of this are to be drank warm, or, for want of it, of posset-drink. At the same time I order a large quantity of the same to be given at several times, successively, by way of glyster, till the whole be taken in and discharged by vomiting and stool. An ounce of the *syrup of lettice, violets, purslain, or water-lilly*, may be added to the draughts and glysters; but the liquor will answer the end pretty well alone. The stomach in this manner being often loaded with a large quantity of liquor, and its motion, as it were, inverted thereby, and glysters being frequently thrown in, the sharp humours are either evacuated, or, their acrimony being blunted, restored to their due temper and mixture.

4. When

When it is occasion'd by (1) a corrosive poison, oils, mucilaginous and unctuous liquors must be taken by the mouth, and injected glyster-wise in large quantities; as *oil-olive, oil of sweet almonds, a decoction of the shavings of hartshorn, water-gruel, barley-water, and likewise milk*, which is render'd more effectual, if it be mixt with *absorbent powders*. (2) When by strong emetics and purgatives, *warm opiates*, such as *mithridate, VENICE or LONDON treacle*, and the like, fomenting the stomach and *abdomen* with spirituous and strengthening fomentations, and afterwards embrocating these parts with liniments made of *express'd oil of nutmegs, nerve ointment, &c.* will generally effect a cure. (3) When from fermentable and corrupted diet, encourage the discharge by *gentle emetics, lenient cathartics, and plentiful dilution with whey, thin water-gruel, the small chicken broth*, recommended by our author, and the like; and afterwards give strengthening medicines to compleat the cure. (4) When from a violent fit of anger, *emetics and cathartics* must by no means be exhibited, nor cold water, small beer, or the like, drank immediately after, for fear of causing an inflammation of the stomach; but the acrimony and heat of the bile must be corrected by proper *absorbents, mixed with nitre, drinking water-gruel, barley-water, a decoction of the shavings of hartshorn, &c.* after which the disorder may be carried off by *mild vomits*, such as the *Ipecacuanha root*, or *lenient purgatives, as an infusion of rhubarb, with manna dissolv'd in it*.

Cold water is esteem'd an excellent remedy in a *cholera*, and is said to be so much the more effectual, the warmer the climate, season, and constitution of the patient be. It mitigates and takes off the violent heat, which arises in this disease from the vehement intestine attrition and motion of the sulphureous parts of the juices, dilutes and blunts the bilious acrimony of those contained in the first passages, and finally restores the tone and strength of the solid parts, considerably weakened by the violence of the distemper.

Sect. 4.

An opiate
when to be
given.

An anodyne
draught.

This me-
thod safer
and quicker
than the
common one.

When lau-
danum is to
be immedi-
ately given.

A surfeit
totally dif-
ferent from
the true
cholera
morbis.

4. When this business is over, which requires three or four hours, an opiate compleats the cure. I frequently use the following, but any other may be substituted in its stead.

Take of couflip-flower water, an ounce; Aqua mirabilis, two drams; liquid laudanum, sixteen drops: mix them together.

5. This method of diluting the humours is abundantly safer and quicker than the ordinary one of treating this dangerous disease, either by *evacuants*, or *astringents*; for evacuants increase the disturbance and commotions, and astringents detain the enemy in the bowels, so that, not to mention the trouble occasion'd by prolonging the disease, there is danger lest the vitiated humours get into the blood, and cause a fever of a bad kind.

6. But it must be carefully noted that if the physician be not call'd till the patient is exhausted by the vomiting and looseness having continued, for instance, ten or twelve hours, and the extremities are become cold, he must then, omitting all other remedies, have immediate recourse to *laudanum*, the last refuge in this disease, which is not only to be given during the urgency of the symptoms, but repeated every morning and night after the vomiting and looseness are gone off, till the patient recovers his former strength and health.

7. Tho' this disease be epidemic, as we remark'd above, yet it very rarely lasts longer than the month of *August*, wherein it began; whence one may take occasion to consider the elegant and subtle contrivance nature uses in producing epidemic diseases. For tho' the same causes entirely remain, which may occasion this distemper in several persons towards the end of *September* as well as in *August*, namely, a surfeit of fruit, yet we find the same effect does not follow (*d*). For whoever carefully attends to the appearances of a *legitimate* or true *cholera morbus*, of which only we now treat, must acknowledge that the disease occasionally happening at any other time of the year, tho' proceeding from the same cause, and accompanied with some of the same symptoms, totally differs from that just mention'd;

(*d*) In a *cholera morbus* occasioned by a surfeit of fruit in autumn, *Boerhaave* highly extols oil of sulphur by the bell. See *Prax. Med. Vol. III. p. 245.*

tion'd; as if there lay conceal'd some peculiar disposition in the air of this particular month, which is able to impregnate the blood, or ferment of the stomach, with a kind of specific alteration, adapted only to this disease.

C H A P. III.

Of the Dysentery of part of the year 1669, and of the years 1670, 1671, 1672.

I. **I**N the beginning of *August*, 1699, as before observ'd, the *dry gripes* appeared, and during the course of that autumn equall'd, or rather exceeded the *dysentery* which arose with them, in respect to the numbers they attacked. Sometimes a fever accompanied them, and sometimes not; but they exactly resembled the gripes which attended the dysentery that prevailed at the same time; for they were extremely violent, and attack'd at intervals, but no natural or mucous stools succeeded. They prevailed equally with the dysentery throughout this autumn, but appeared no more epidemically in the following years of this constitution. As these dry gripes differ little either in their nature, or the method whereby they are removed, from the dysentery, I proceed to treat of this last distemper.

The rise and progress of the dry gripes.

To be treated as the dysentery.

2. It has been already remarked that the *dysentery* generally comes, as the present one did, in the beginning of *autumn*, and goes off for a time upon the approach of winter; but when a number of years tend much to produce it epidemically, it may seize a few at any other time, and abundance at the beginning of spring, or perhaps earlier, if warm weather immediately succeeds a severe frost, that went off suddenly. And tho' very few may be attacked with it, yet as this happens at so unusual a time, I am well convinc'd that the constitution eminently favours this disease. And thus it happened in those years wherein the dysentery proved very epidemic; for sometimes, as we observed above, it seiz'd a few towards the end of winter, or beginning of spring (a).

The dysentery usually comes in the beginning of autumn.

3. It

(a) The *dysentery* is defined, "a convulsive motion of the intestines, caus'd by a caustic, ulcerating humour, lodg'd in their coats, occasioning a frequent inclination to go to stool, and a fre-

Sect. 4.

Its sym-
ptoms.

3. It sometimes begins (1) with a chilness and shaking, immediately succeeded (2) by a heat of the whole body, as is usual in fevers, and soon after (3) gripes and stools follow:

“ frequent discharge of mucous, bilious matters, ting’d more or
“ less with blood, with vehement gripings, and a feverish
“ commotion.”

It is generally *epidemic*, rarely *sporadic*, and appears with various degrees of malignity. It spares neither age nor sex, but attacks women as well as men, children and youth, as well as adults and aged persons, and suffers not even sucking children to escape. The plethoric, bilious, and those whose stomach is very weak are chiefly subject to it, and it affects those more severely who have liv’d irregularly in point of diet, and eat large quantities especially of unripe and easily fermentable fruit.

It differs from a *looseness* (1) by being attended with more violent gripings, and a discharge of bloody, purulent, putrid and extremely fetid matters; whereas what is voided in a looseness is either serous, slimy, or bilious, but never bloody. From (2) the *cholera morbus*, by its longer continuance, having no vomitings, unlets in the beginning or state, occasioned sometimes by an inflammation of the stomach, being epidemic, and catching, and attended with a more painful *tenesmus*. From (3) a *flux of the hemorrhoids*, wherein pure blood is evacuated with advantage to health, by prevailing at a particular time of the year, being usually accompanied with a fever, and a voiding of blood, very seldom pure, but mix’d with purulent, frothy, fetid matter, whence severe griping, and a very painful *tenesmus*; the evacuation not affording any relief, but on the contrary highly weakening and dispiriting the patient. From (4) an *hepatic flux*, where what is voided looks like the water wherein raw flesh has been wash’d, and comes away without pain, by the very different appearance of the discharges, the violent gripings attending them, the presence of a fever, and other bad symptoms. From (5) that disorder, consisting in frequent evacuations by stool, at first mucous, and afterwards tinged with blood, which is *endemic at Paris*, and seizes almost all foreigners, by being much more malignant, and likewise catching, accompanied with a fever, and occasioning a far greater loss of strength and spirits.

The dysentery is also divided into a *malignant* and *kindly* species. The latter continues longer, proves milder, and is less dangerous; but the former appears to be not only of a contagious nature, but attended with mortal symptoms, as an ill-condition’d fever, great loss of strength, extreme thirst, &c. It is further divided into a *red* and *white* kind: in the former the stools are ting’d with blood, but in the latter they are purulent, mixt with caruncles and the *mucus* of the intestines.

Our author not having taken any notice either of the seat, or causes of this disease, we shall here deliver the sentiments of *Hoffman* on these heads, from whom we have taken most of the particulars above set down.

Its seat may be determined with ease by attending to the part chiefly pained. If therefore (1) a violent pain be perceiv’d near the navel, and a stool succeeds slowly thereupon, ’tis certain that the small guts are affected. (2) When the gripings affect the *ce-*
pigastrie

follow: it is indeed, frequently, not preceded by a fever, but the gripes attack first, and stools soon succeed; (4) however

pygastric region where the *colon* is situated, or the *hypogastric* region and *hypochondria*, and the *feces* are immediately discharged, 'tis manifest that the seat of the disease is in the great guts. Lastly (3) where there is a continual inclination to go to stool, or a slimy and acrimonious *mucus* evacuated in a small quantity, it seems probable that there is an ulcer of the *rectum*.

With respect to the *procatartic*, or causes productive of the noxious humours occasioning a dysentery, they are chiefly of three kinds. For this disease may be caus'd (1) by the season. For instance, when the foregoing summer has been exceeding hot and dry, it arises towards the close thereof, and the beginning of *autumn*, namely in *August*, or *September*, especially if the violent heat of the day be succeeded by very cold nights, with *north* winds. For the blood having been remarkably thinned, and copious sweats occasioned by the preceding long continued heat and dryness of the air, the soft and fluid parts of the juices are thus dissipated, the remainder rendered acrid, impure and sulphureous, and the body debilitated: whence it follows that if persons, whose juices are thus deprav'd and vitiated, happen to be considerably exposed to the cold air in the evening, by being too thinly cloth'd, sitting long, or sleeping on the ground, &c. it causes a stoppage of the pores, and prevents the further exhalation of the yet fine sulphureous and impure parts of the fluids, which, uniting with the vapid lymph, degenerate into a viscous and very acrid matter, which by means of the febrile motion is brought to the intestines, the great strainer of such foul matters, and produces a dysentery. In this manner the field dysentery is generated, and may arise without the least concurrence of any malignant *effluvia*. (2) By exhalations and vapours of a contagious nature, which occasion an epidemic dysentery, of a more or less malignant kind. Such vapours are generated either (1) in the air itself, from some malignant *effluvia*, exhal'd from the earth, and a peculiar disposition of the winds, and are received in by breathing, or (2) they may be taken in with the aliment, especially greens and fruit, covered either with a poisonous coat, or the malignant eggs of insects, that float in great abundance in the air, at this time, and so mixed with the blood and juices. And 'tis worth notice that in such a constitution of the air, the poison received lies concealed and unactive in the body for a time, and only waits for an occasional cause to put it into action. Hence a dysentery has frequently been observed to happen at this time, from a very gentle irritation of the intestines by a mild purgative, or otherwise. The origin and cause of this infection, or contagion, may likewise be owing to the malignant *effluvia* exhaling from dysenteric bodies by insensible perspiration, or from their excrements, milk, or sweat. Dysenteries of a bad kind usually prevail, when the air appears to contain abundance of flies, caterpillars, spiders, and other insects. Lastly (3) this disease may proceed from eating fruit very freely, especially if it be unripe, or drinking fermentable liquors upon it, particularly, new wine, beer, cyder and the like. The most noxious fruits are sweet cherries, peaches and plumbs, especially the large yellow plumb.

Sect. 4. however intolerable gripings, and a painful descent, as it were, of all the bowels always accompany the stools, which are very frequent; and (5) all mucous, not excrementitious, unless that sometimes an excrementitious one intervenes without any considerable pain; (6) the mucous stools are generally streak'd with blood, but sometimes not the least blood is mixed with them, throughout the whole course of the disease; nevertheless if they be frequent, mucous, and accompanied with gripings, the distemper may as justly be entitled a dysentery, as if blood was discharged along with them (b). (7) Further if the patient be in the vigour of life, or has been heated by cardiacs, a fever arises, and the tongue is covered with a thick white *mucus*, and if he has been very much heated it is black and dry; great loss of strength, lowness of spirits, and all the signs of an ill-condition'd fever are joined with it. (8) This disease occasions extreme pain and sickness, and greatly endangers life, if unskilfully treated; for when the spirits are much exhausted, and the vital heat diminished, by frequent stools, before the matter can be expell'd the blood, a coldness of the extremities ensues, and there is danger of death even within the periods of acute diseases. But if the patient escapes for this time, several symptoms of a different kind succeed; for instance, sometimes in the progress of the disease, instead of those sanguineous filaments which are usually mix'd with the stools in the beginning, a large quantity of pure blood, unmix'd with *mucus*, is voided at every stool, which, as it manifests an erosion of some of the larger vessels of the intestines, threatens death. (9) Sometimes also the intestines are affected with an incurable gangrene, caused by the violent inflammation arising from the plentiful afflux of the hot and sharp matter to the affected parts (c). (10) Moreover, at the decline of the

A hot regimen and cardiacs detrimental.

(b) This should seem to be what *Hoffman* terms the *white dysentery*, wherein the stools are purulent, mixt with caruncles and *mucus* abraded from the coats of the intestines. See *Hoff. Med. Systemat. Tom. IV. Par. III. p. 528.*

(c) If the pain and thirst cease at once, the excrements be voided involuntarily, and have a fetid cadaverous smell, the pulse be small, and convulsions succeed, the intestines are judged to be affected with an incurable gangrene. A *delirium*, *aphthæ*, inflammation of the throat, a palsy of the whole *œsophagus*, coldness of the

the disease, *Aphthæ* frequently affect the internal parts of the mouth, especially when the patient has been kept very hot for a long time, and the evacuation of the peccant matter check'd by astringents, the matter of the disease not having been first carried off by cathartics; these *Aphthæ* generally foreshew imminent death.

This disease sometimes ends in a tenesmus.

Is gentle in children, tho' it often destroys adults.

4. But if the patient survive the foregoing symptoms, and the disease prove lasting, the intestines at length seem to be affected successively downwards, till it be driven to the *rectum*, and ends in a *tenesmus* (*d*); upon which the natural stools, otherwise than in a dysentery, occasion great pain in the bowels, the *feces* in their passage thro' them abrading the small guts; whereas the mucous stools only offend the *rectum* during the time that the matter is made, and discharg'd. But tho' this disease often proves mortal in grown persons, and especially in the aged, it is nevertheless very gentle in children, who have it sometimes for some months without any inconvenience, provided the cure of it be left to nature.

K

5. What

the extremities, great anxiety, convulsions, and an hiccup are esteem'd mortal signs in this disease. It is dangerous in women in child-bed, and oftner destroys aged, and very young persons, than y middle-aged. When it attacks cachectic, scorbutic, consumptive, or weak constitutions, and those who have suffered long under some disorder of mind, the case is generally desperate; and it threatens danger, when the patient is troubled with worms. When it is accompanied with vomiting, and an hiccup succeeds, an inflammation of the stomach is to be apprehended. When the excrements are green, or black, and very fetid, and mix'd with caruncles, the danger is imminent; for these signs denote an ulcer of the intestines. It is also an extremely bad sign if the glysters come away immediately after being injected, or the *anus* be so close shut that nothing can be thrown in; the former denoting a paralytic disorder of the intestines, especially of the *rectum*, and the latter a vehement spasmodic contraction of the same. It is proper to know that this disease sometimes proves mortal in a short time, namely in *seven* or *eight* days, particularly if a malignant fever prevails; but sometimes it runs on to the *fortieth* day, and beyond it, and when it has continued a long time, either destroys the patient, or, tho' it goes off, leaves some troublesome disorder behind it, often terminating in a *dropsy*, *lenteria*, the *COELIACA PASSIO*, an *incurable hectic*, or a *consumption*.

(*d*) The *tenesmus* here should seem to arise from the extreme sensibility, and consequent mobility, of the part affected, occasion'd by the continual irritation it suffers from the acrimonious humours lodg'd therein, which it is so much the more sensibly affected with on account of its having lost much of the soft *mucus* in the course of the disease, which serves to defend it from such irritation.

Sect. 4.

*There may
perhaps be
various
kinds of
dysenteries.*

*All epide-
mics most
subtile and
spirituous
at their
rise.*

*Exemplifi-
ed in the
plague,*

*and this
dysentery.*

5. What similitude there is between the dysentery here describ'd, and the *endemic dysentery of Ireland*, I know not, having hitherto had no account of the latter. Neither have I discovered how far this dysentery resembles those happening in other years here in *England*. For possibly there may be as many species of dysenteries, as there are kinds of small-pox, and other epidemics peculiar to different constitutions, and which may therefore require a different method of cure in some particulars. Nor should this procedure of nature so much raise our wonder, since 'tis universally acknowledged, that the further we penetrate into any of her works, the clearer proofs we have of the exceeding variety, and almost divine contrivance of her operations, which far surpass our comprehension. So that whoever has undertaken to fathom these matters, and search after the multifarious operations of nature, will find himself disappointed in his expectation, and not succeed in the attempt; and besides, if he be a judicious person, he will expect to be censured for making the most useful discoveries, for no other reason but because he was the first inventor.

6. It must be further observ'd that all epidemics at their first appearance, as far as can be judg'd from their phenomena, seem to be of a more spirituous and subtile nature, than when they become older; and that the more they decline, the more gross and humoural they daily grow; for whatever kind of particles those are, which, being intimately mix'd with the air, are esteem'd to produce an epidemic constitution, 'tis reasonable to conclude that they are possessed of a greater power of acting at their first appearance, than when their force is weakened. Thus in the infancy of the plague scarce a day pass'd, but some of those who were seized with it died suddenly in the streets, without having had any previous sickness; whereas after it had continued for some time, it destroy'd none, unless a fever and other symptoms had preceded; whence it clearly follows that this disease, tho' it then took off fewer persons, was more violent and acute in the beginning than afterwards, when its influence was more extensive.

7. In the like manner in the dysentery under consideration, all the symptoms were most severe in the beginning, tho', with respect to the numbers affected thereby, it increased daily till it came to its height, when consequently

quently more persons died than in the beginning : yet the symptoms were more violent then, than in the height, and much more so than in the decline thereof, and, all circumstances being alike, abundance more perished. To this may be added that the longer it continued the more humoural it seem'd to be ; for instance, the first *autumn* it attack'd, several had no stools at all : but with respect to the severeness of the gripings, the violence of the fever, sudden decay of strength, and other symptoms, it much exceeded the dysenteries of the following years. And further, the dysentery accompanied with stools, which appeared first, seem'd to be of a more spirituous and subtile nature than those that succeeded ; for in the first dysentery the provocation to stool, and straining, were greater and more frequent, and the stools, especially the natural ones, less both in point of quantity and frequency. But generally as the disease proceeded on its course, the gripings abated, and the stools became more natural, and, at length, the epidemic constitution declining, the gripes were scarce felt, and the excrementitious or natural stools exceeded the mucous ones in number.

8. To proceed at length to the curative indications : after having attentively considered the various symptoms attending this disease, I discovered it to be a *fever* of its own kind, turned inwards upon the intestines ; by means of which the hot and sharp humours, that were contained in, and agitated by the blood, were thrown off by the meseraic arteries upon these parts, whence blood was discharged by stool, the mouths of the vessels being opened by the impulse of the blood and humours flowing thereto. And by the violent and frequent efforts of the intestines to discharge the sharp humours that continually vellicate them, the *mucus*, wherewith their inside is naturally covered, is cast out more or less copiously at every stool. The indications of cure therefore seem to offer themselves plainly ; nor indeed have I judged that I had any thing more to do than (1) to make an immediate revulsion of these sharp humours by bleeding, and afterwards to cool the remainder ; and (2) to evacuate them by purgatives (e).

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9. I

(e) There is scarce a disease which requires more skill in order to its rational cure than the dysentery. In general, the indications

Sect. 4.

The method
of cure.

9. I therefore used the following method: upon being call'd in I immediately directed bleeding in the arm (f) gave an opiate the same evening, and the next morning this gentle purging potion, which I frequently use.

A purging
draught.

Take of tamarinds, half an ounce; the leaves of sena, two drams; rhubarb, one dram and half; boil them together in enough water to leave three ounces of strain'd liquor, in which dissolve manna and solutive syrup of roses, of each, an ounce: mix them together for a purging potion, to be taken in the morning early. I

indications of cure are; (1) to correct the noxious, acrid, peccant matter, of what kind soever it be, and expel it by the proper emundatories; (2) to ease the gripings, and quiet the convulsive motions of the intestines; and lastly (3) to exhibit proper remedies to heal the intestines, if ulcerated, or strengthen them, if too much weakened. The (1) is answered by *mucilaginous, smooth, and oily medicines*, taken internally, and injected by way of glyster, *gentle emetics* repeated as there is occasion, especially of *Ipecacuanha* root, which is esteemed a specific here in the beginning, and *lenient purgatives*, mixed with *absorbents*. In case of malignancy, a *breathing sweat* is to be promoted, and *proper cordials* exhibited. With respect to *Ipecacuanha*, it should be observed that it proves most serviceable in robust and moist constitutions, where the first passages and bowels abound with foul humours, or the infection is newly received, whence a *nausea*, retchings, anxiety, &c. are occasioned. But if it be given after the disease has continued some time, and the patient has had frequent mucous as well as bloody stools, it will indeed in some measure check these evacuations, but it increases the anxiety, so as often to render it necessary to renew the flux by means of emollient glysters. It is also hurtful if the liver be injur'd, or any of the *viscera* affected with an inflammation, *scirrhus*, or cancer. With respect to *laxatives*, such as are sweet and apt to ferment are improper; as a *decoction of prunes*, a *solution of manna*, an *infusion of sena*, and all *laxative syrups*. *Violent purgatives* and *mercurials* are found to exasperate the symptoms. (2) The second intention requires *opiates* and *substringents*, and the application of *anodyne fomentations* and *liniments* to the stomach and abdomen. (3) The third demands either *detergents* and *balsamics*, or *strengthening remedies*, according to the nature of the case.

(f) Much experience has shewn that bleeding is absolutely necessary in the beginning, if the patient be plethoric, has been accustomed to drink wine freely, or the disease be accompanied with a continued fever. For 'tis a groundless apprehension that bleeding lessens the strength, since, not only, many in this disease die of an inflammation of the intestines, but also that plethoric persons, if attacked with continued fevers, only perish from an overfulness of blood, which readily occasions obstructions, a mortification and gangrene; whence bleeding must certainly be the properest remedy to prevent these dangerous symptoms.

I commonly prefer this draught to an electuary made with a small quantity of *rhubarb*; for tho' this root be exhibited to evacuate choler and acrimonious humours, yet unless a proper quantity of *manna*, or *solutive syrup of roses* be mixed with it to quicken its operation, it avails little in curing a dysentery. And because it is certain that the gentlest cathartics sometimes increase the gripings, and occasion a general depression and disorder of the spirits by the adventitious commotion they raise in the blood and humours during their operation, I therefore commonly give an opiate earlier than is usual after purging, viz. at any hour in the afternoon, provided it seems to have done working; and this I do in order to quiet the disturbance I have raised. I repeat the cathartic twice more, interposing a day between each, and exhibit an opiate after every purge, at the time above-mentioned, and direct it to be repeated morning and night on the intermediate days, in order to diminish the violence of the symptoms, and obtain a respite whilst I am employed in evacuating the peccant humour. The opiate I chiefly used was liquid *laudanum*, in the quantity of sixteen or eighteen drops in any cordial water for a dose.

10. After bleeding and purging once I allowed some mild cardiac to be taken between whiles, throughout the course of the disease, as *plague water*, *compound scordium water*, and the like. e. g.

Cardiacs when to be allowed.

Take of distilled waters of black cherries and strawberries, of each, three ounces; *plague water*, *compound julap*, *scordium water*, and *small cinnamon water*, of each an ounce; prepared pearl, one dram and half; fine sugar enough to sweeten it, and half a dram of damask rose water to give it an agreeable taste: mix all together for a julap, of which let the patient take four or five spoonfuls, when faint, or at pleasure.

A cordial

But I used these chiefly in aged and phlegmatic persons, in order to raise their spirits in some measure, which are much depressed in this disease by the violence of the stools. Their drink was milk boiled with thrice its quantity of water, or the white decoction, as it is called, made of burnt hartshorn, and the crumb of white bread, of each two ounces, boil'd in three pints of water to two, and afterwards sweetened with a sufficient quantity of fine sugar; and

The proper diet and liquors.

Sect. 4. sometimes *posset drink*, or, where the loss of spirits required it, they drank cold for their common drink a liquor made by boiling *half a pint of canary, and a quart of spring-water together*. Their diet was sometimes panada, and sometimes broth made of lean mutton (g). I kept the aged more in bed, and allowed them a freer use of any cordial water they had been accustomed to, than was proper for children, or young persons. This method exceeded all those I had hitherto experienced in conquering this disease, which for the most part yielded to the third purge.

How to be
treated
when it does
not yield to
these
means.

II. But if it proved so obstinate as not to yield to these means, I gave the former opiate every morning and evening, till it went quite off; and the more effectually to conquer it, I have ventured to give a larger dose of *laudanum*, than that above specified, viz. twenty five drops every eight hours, if the former dose proved too weak to stop the flux (h). I likewise ordered a glyster made of *half a pint of milk, and an ounce and half of Venice treacle*, to be injected every day, which is in effect an admirable remedy in all kinds of loosenesses. Nor indeed have I hitherto found the least inconvenience happen from so frequent a repetition of opiates, (whatever mischief the unexperienced imagine will follow from hence) tho' I have known several who have taken them every day for some weeks when the disease prov'd inveterate. But it must be noted here, that when the flux amounts only to a looseness, omitting bleeding and strong purging, it will suffice to give *half a dram of rhubarb*, more or less in proportion to the strength of the patient, every morning, *made into a bolus, with a sufficient quantity of diascordium, adding to it two drops of oil* of

The cure of
a looseness.

(g) Beer is prejudicial here; every thing should be drank warm, and, towards the conclusion of the disease, a glass of wine by itself, or mix'd with water, as the stomach will bear it, is proper both to raise the spirits, and strengthen the stomach and bowels. Veal or chicken broth, rice, and yolks of eggs are esteem'd useful by way of diet.

(h) When the strength is much exhausted in a dysentery, or looseness, by the frequent discharges accompanying these distempers, the patient is cachectic and consumptive, a hectic heat, suffocation, grief, and wandering pains in the limbs succeed, the evacuation is to be check'd, strengthening glysters often injected, strengthening topics applied to the stomach and abdomen, and proper internals exhibited at the same time to strengthen all the parts.

of cinnamon; and exhibiting an opiate the following evening, *e. g.* Chap 3.

Take of small cinnamon water, one ounce; liquid laudanum fourteen drops: mix them together. *Aparegoric draught*

In the mean time use the diet above specified in the cure of the dysentery, and inject the glyster there commended every day, if there is occasion.---But this by way of digression.

12. Now to evince the excellence of the method here delivered by a single instance, for I will not trouble the reader unnecessarily with many; The rev'd Mr. *Belke*, chaplain to the earl of St. *Alban's*, being seized with a violent dysentery, during this constitution, sent for me to attend him, and he was recovered by this method. *An instance of the dysentery cured by this method.*

13. Children affected with this disease are to be treated in the same manner, but the quantity of blood to be taken away, and the doses both of the purgative and opiate must be diminished in proportion to their age, so that, for instance, two drops of liquid *laudanum* is a sufficient dose for a child of a year old. *Children how to be treated in this disease.*

14. The liquid *laudanum*, which I constantly use, as above intimated, is prepared in the following simple manner. *Our author's liquid laudanum described.*

Take of Spanish wine, one pint; opium, two ounces; saffron, one ounce; cinnamon and cloves, reduced to powder, of each, one dram: infuse them together in a bath-heat for two or three days, till the tincture becomes of a due consistence, and after straining it off, set it by for use.

I do not indeed judge that this preparation is to be preferred to the solid *laudanum* of the shops on account of its virtues, but I give it the preference for its more convenient form, and the greater certainty of dosing it, as it may be dropt into wine, a distill'd water, or any other liquor. And here I cannot forbear mentioning with gratitude the goodness of the supreme being, who has supplied afflicted mankind with opiates for their relief; no other remedy being equally powerful to overcome a great number of diseases, or to eradicate them effectually. And notwithstanding there are persons who endeavour to persuade the credulous, that almost all the virtues of opiates in general, and of opium in particular, chiefly depend *Its peculiar usefulness.*

Opium as effectual as any of its preparations.
 Sect. 4. depend on their artful preparation of them, yet whoever puts it to the test of experience, and uses the simple juice, as frequently and as cautiously as any of its preparations, will certainly find very little difference between them, and be convinced that the wonderful effects of opium are owing to the native goodness and excellency of the plant that affords it, and not to the dexterity of the artist. Moreover, this medicine is so necessary an instrument in the hands of a skilful person, that the art of physic would be defective and imperfect without it; and whoever is thoroughly acquainted with its virtues, and the manner of using it, will perform greater things than might reasonably be expected from the use of any single medicine. For it must certainly argue unskilfulness, and a very slender knowledge of its virtues, to understand only to apply it in order to procure sleep, ease pain, and check a looseness, since it may be suited to several other purposes, and is indeed a most excellent cardiac, not to say the only one hitherto discovered.

An excellent cordial.

The dysentery in the beginning of this constitution, how best treated.

15. The dysentery was in general to be treated in this manner. But it must be observed that as this dysentery was of a more spirituous and subtile nature the first year it arose, than in the subsequent years, it yielded less readily to purgatives, than to those medicines that diluted and cooled the blood, as well as the sharp humours separated from it into the intestinal duct. And therefore during the first *autumn* wherein the dry gripes and dysentery prevailed, I always used the following method with success for both, till colder weather succeeded, when I found it less effectual, even in the same year; and in the following years, when the disease had lost much of its subtilty, and prov'd more humoural, it availed not at all.

The method specified.

16. I proceeded in this manner: if the patient was young, I directed bleeding in the arm, and an hour or two after a large quantity of liquor to be taken, by way of diluting, according to the method I practised in the *cholera morbus*, except that here, instead of chicken-broth, or posset-drink, I substituted whey to be drank cold in the same quantity as in that disease, but ordered the glysters to be injected warm, without an admixture of sugar, or any other ingredient. I always found the gripes and bloody stools go off upon the discharge of the fourth glyster. This business being over, and all the whey evacuated,

evacuated, which if the patient be expeditious takes up only two or three hours, he was immediately put to bed, where he soon fell into a spontaneous sweat, (occasioned by the mixture of the whey with the blood) which I ordered to be continued for twenty four hours, but not at all provok'd by medicine; allowing him nothing more than warm milk during this time, which he likewise used only for three or four days after he left his bed. If a relapse happens, either from rising too soon, or leaving off the milk diet too soon, the same process must be repeated. Now if this method be certain and speedy, no judicious person will reject it, because it does not come recommended with a pompous multiplicity of remedies.

17. That a fever, attended with such symptoms, as we have enumerated above, happens in those countries, and at those times, wherein the dysentery prevails epidemically, and that the method of cure here delivered is agreeable thereto, is still further confirmed by the testimony of Dr. *Butler*, who accompanied his excellency *Henry Howard* ambassador from his *Britannic* majesty to the emperor of *Morocco*, in *Africa*. This gentleman assured me that the dysentery rag'd at that time epidemically in that kingdom, as it always does; and that the fever accompanying it resembled the fever above described, which he treated according to our method with constant success, both at *Tangiers* and other places, whether the patients were *Moors* or *Englishmen*. Now neither of us was oblig'd to the other for this method, but being at so vast a distance we both casually fell upon the same. And he also informed me that the method of diluting plentifully in the dysentery succeeded admirably in those parts; and indeed I conceive it reasonable that this method should be attended with greater success in that hot climate than in *England*.

Cured by
the same
method in
Africa.

18. In the first autumn wherein this constitution prevailed, Dr. *Cox* being seized with a very acute dysentery, by my advice, followed the abovementioned method, whereby he was safely and expeditiously cured. For after the discharge of the fourth glyster, at which time I happened to be with him, the gripes and bloody stools vanished, and there was occasion for nothing further to complete the cure, except keeping his bed for the time above specified, and using a milk diet. And this gentleman afterwards recovered several by the same method

An instance
of its usefulness.

Sect. 4.

How to be
treated
when it
proves last-
ing.

Topics why
not to be ap-
plied.

It some-
times conti-
nues for se-
veral years.

thod at the close of autumn; but the following year, making trial of it again, he found it fail him.

19. We have already taken notice that when this disease runs on to a great length, it often affects all the intestines gradually downwards, till at length it fixes in the *rectum*, with a continual inclination to go to stool, whereby only a *mucus* ting'd with blood is discharged. In this case I conceive it would be useless to attempt the cure, either (1) by any of the abovementioned methods; (2) by *detergent*, *agglutinant*, or *astringent* glysters, which are ordinarily injected according to the different states of the supposed ulcer; or (3) by *fomentations*, *baths*, *fumigations*, and *suppositories*, suited to the same purposes. For 'tis apparent that this disorder does not proceed from an ulcer of the *rectum*, but rather from this, that in proportion as the intestines recover their tone, they deposite the remains of the morbid matter in this gut, which being continually irritated thereby, discharges part of the mucous matter at every stool wherewith the inside of the intestines is naturally covered. For this reason the part affected must be strengthened to expel the small remains of the morbid matter, as the other intestines have already done. And this purpose is only answered by such medicines as strengthen the body in general; for the application of any kind of topic to the part affected, being incommodious, will rather debilitate than strengthen it (i). The disease therefore must be borne till the strength can be recovered by a restorative diet, and the free use of some particularly grateful cordial liquor; for the tenesmus will go off spontaneously in the same degree as the strength returns.

20. It sometimes happens, tho' very seldom, that a dysentery ill treated in the beginning afflicts a particular person for several years, the whole mass of blood having obtained a dysenteric disposition, whence the intestines are continually supplied with hot and acrimonious humours, whilst the patient in the mean time continues pretty capable of following his business. I met with an

(i) The *tenesmus* is an exceeding troublesome and painful symptom, but may be greatly relieved by fomenting the *anus* with a decoction of flowers of elder and camomile in milk, applying the mucilage of flea bane seed or quince seed, a mixture of oil of almonds, yolk of egg, and saffron thereto; or receiving the warm vapour of an emollient decoction of the leaves of marsh mallows, flowers of elder, fenugreek seed, &c. in milk.

an instance of this lately in a woman, who was perpetually afflicted with this disease, during the three last years of this constitution; and as she had abundance of medicines before applying to me, omitting other remedies, I only directed bleeding, and was encouraged to repeat it frequently, at considerable intervals, as well from the colour of the blood, which resembled that of pleuriticks, as from the great relief the patient obtained by every bleeding; by which means she at length recovered her former health.

Chap. 3.

An obstinate one cured by repeated bleeding.

21. Before I finish, this particular is to be remarked, viz. that tho' in those years, wherein the dysentery rag'd so epidemically, the abovementioned evacuations were absolutely necessary to be made, previous to the use of *laudanum*, yet in any constitution, which has a less tendency to this disease, they may safely be omitted, and the cure completed by the shorter method, namely by exhibiting *laudanum* alone, in the manner already delivered.---And let this suffice for the dysentery.

When not epidemic yields to laudanum only.

C H A P. IV.

Of the continued Fever of part of the Year 1669, and the Years 1670, 1671, 1672.

1. **A**T the same time the *dysentery* raged, a *fever* arose, which much resembled, and often accompanied this disease. It not only attack'd such as were afflicted with the dysentery, but those likewise who remain'd wholly free from it, unless that sometimes, tho' very rarely, the patient had slight gripings, sometimes with, and at others without a looseness, for it always had the same apparent causes with the dysentery, and was attended also with the same symptoms as the fevers of those who had the dysentery; so that if we except the evacuation by stool in the dysentery, and the symptoms thereon necessarily depending, this fever should seem to be wholly of the same nature with that disease. And from henceforward, through the course of this constitution, it underwent the same change of symptoms, with respect to its increase, state, and declension, as generally happen'd in the dysentery. I call it, therefore, the *dysenteric fever*.

Origin of the fever of this constitution.

2. This

Sect. 4.

*Its sym-
ptoms.*

2. This fever, as we have said, sometimes began (1) with mild gripings, especially in the first years of its appearance, or they came on afterwards, but frequently none at all attended; (2) the sweats, which as we observed above were very copious in the fever of the preceding constitution, were unfrequent and moderate in this; but (3) the pain in the head was more violent here; (4) the tongue, tho' it was white and moist as in the other fevers, was covered beside with a thick fur; (5) this fever seldom went off by a spitting, as the other usually did; (6) it was more subject to generate *Aphthæ* in the declension, than either the former, or any other fever I had hitherto met with: for both this and the fever that succeeded the dysentery, in the decline, generally deposited a vitiated and acrid matter in the mouth and throat, whence this symptom arose in such as had been much exhausted by the inveteracy of the disease, and further debilitated by an over-hot regimen. In the same manner also were those *Aphthæ* generated, which happen'd at any time in stubborn dysenteries, joined with a fever; especially if, besides using an hot regimen, the discharge by stools had been stop'd by astringents, before the cause of the disease was expelled the veins by bleeding and purging.

3. These were the most certain signs of this fever, for the other symptoms varied every year, according to the manifest qualities of the air at certain times, and also according to the progress and different states of the dysentery. But that these particulars may be better understood, since by this contrivance especially nature manifests her superior power in the production of epidemic diseases, we shall make a closer scrutiny into this matter. It should therefore be observed that, tho' the manifest qualities of the air may not make so strong an impression upon a particular constitution, as to be the productive causes of the epidemic diseases which are properly referred thereto, as these arise from some latent and inexplicable disposition thereof, yet they have a power over them for a time, and hence epidemics are admitted or excluded, as the manifest qualities of the air favour or oppose them. But the universal constitution remains precisely the same, whether these promote, or in some measure retard it.

*Epidemics
how affected
by the ma-
nifest qua-
lities of the
air.*

4. Hence

4. Hence also it is that when various epidemics happen in the same constitution, some particular disease shews itself chiefly in the season assign'd it by the sensible qualities of the air; and at length yields to some other epidemic, which the different qualities of the subsequent season occasion. Hence it happens that the stationary fever, belonging to the epidemic of that year, of whatever kind it be, rages most violently in *July*, at the beginning whereof it attacks abundance of persons at once, but upon the approach of *autumn* it abates considerably, and yields to the then reigning grand epidemic, which gives its name to the year, as every year sufficiently shews. For the body being heated by the preceding summer, the fevers, which are peculiar to the general constitution, easily attack at that time, but upon the coming in of *autumn* the grand epidemic again prevails, and these go off entirely.

5. But as the fevers arising in this month should be referred to the sensible qualities of the air, so also the various symptoms, which are quite foreign to their nature, in as much as they depend upon such a general constitution, are derived from the manifest qualities of the air happening in the same month. Hence it is, that in those years wherein these fevers arise in great numbers in this month, they are attended with a variety of new symptoms, besides those which are peculiar to them as they proceed from the general constitution; and yet they still continue the same, tho' by the unskilful they are esteem'd every year as new fevers, on account of the diversity of their concomitants. But these more peculiar symptoms continue only a few weeks, and the remaining part of the year only the proper symptoms appear, which accompany them as *stationary* fevers of such a particular constitution.

6. This clearly appeared in other fevers, but chiefly in the dysenteric fever of *July*, 1671, and 1672; the former of which at the decline was constantly attended with extreme sickness, a vomiting of green choler, and a great tendency to a looseness; and the latter with a pain in the muscular parts of the body, especially in the limbs, resembling a rheumatism, and also an inflammation of the throat, but milder than in a quinsy: yet both these met in the same fever, and were removed by the same procedure, for they differed only with

*Instance'd in
the dysen-
teric fever.*

Sect. 4.

*The species
of a fever
how best
discoverable.*

with respect to the sensible qualities of the air that prevailed at the time when these symptoms arose. But the sudden and unexpected rise of these fevers about the beginning of this month, and the new appearance of their peculiar symptoms for a time, tho' they neither differed in kind, nor in the method of cure required, from the fever that run thro' the whole year: these particulars, I say, clearly shew how difficult it is universally to ascertain the species of a fever from its concomitant signs; tho' it may be sufficiently known by carefully attending to other diseases arising in the same year, and also to the peculiar symptoms of the fever, so far as they depend upon a particular evacuation. A consideration likewise of the method or medicines to which it readily yields, greatly conduces towards discovering the species of the fever.

7. As to the other differences of the concomitant symptoms of *stationary* fevers, they only regard the different times of the constitution, and upon this account are either violent or moderate as the symptoms of other epidemics, to which they belong, are either increased or mitigated.

8. But to resume our subject: this fever, which, as we have already observed, begun with the dysentery, prevail'd equally with it, except that it went off for a little time, whilst the other epidemics of these years prevailed; yet it continued throughout this constitution, sometimes attacking more, and at others fewer persons.

*The cure of
the fever of
this constitution.*

9. With respect to the cure of this fever; having observed, as we said before, that the symptoms of that fever which affected abundance of those who had the dysentery, were manifestly the same with those which accompanied the solitary fevers of the current year, I judg'd it proper to attempt the cure by imitating in some measure the evacuation, which nature commonly uses in order to expel the sharp and corrosive matter, occasioning both the dysentery and the fever succeeding thereupon. And therefore I attempted to cure this fever by the same method, both as to bleeding and repeated purgation, which we have deduc'd more at large in treating of the cure of the dysentery; only I found that opiates, exhibited on the intermediate days, not only did no service, but prov'd detri-

detrimental, by detaining the matter which ought to have been cast out by purging, which happen'd otherwise in the dysentery. On the first days of the illness the patient supped water-gruel, barley-broth, panada and the like for diet, and drank warm small-beer for his common drink; but after purging once or twice it was needless to forbid chicken and the like food of easy digestion, as this method of cure by purging indulges the use of those things, which cannot be allow'd if a different one be practis'd. The third purge, interposing a day between each, generally terminated the disease, but sometimes further purging was requir'd. When the patient continued weak after the fever was gone off, and recovered slowly, which often happen'd in hystERIC women, I endeavour'd to invigorate them, and repair the loss of spirits by giving *laudanum* in a small dose; but I seldom repeated this medicine, and never prescribed it till two or three days after the last purge. But nothing prov'd so effectual to recover the strength, and cheer the spirits, as the free use of the air immediately after the fever vanish'd.

10. I received the first hint of this method of practice from the following case. In the beginning of this constitution, whilst I was solicitously endeavouring to discover the nature of this new fever, I was called to a young woman who had it, join'd with a very violent pain in the fore-part of the head, and the other symptoms, which, as we said, accompanied the dysenteric fever. Upon enquiring in what manner the fever first seized her, and how long it had continued, she told me that she had had the epidemic dysentery a fortnight before, which prevail'd very generally at that time, and that as soon as it went off, either spontaneously, or by the use of medicine, this fever with the pain in the head succeeded. Hence I conceived it would be proper, for both, to substitute another similar evacuation in place of the dysentery, upon the stoppage of which the fever arose; and accordingly procured it by the method above recommended, to which indeed the fevers of this constitution readily yielded. For I was ever of opinion that success alone is not a sufficient proof of the excellency of a method of cure in acute diseases; since some are recovered by the imprudent procedure of unskillful women, but that there was further requir'd, that the

Whence derived.

Sect. 4. the distemper should be easily conquer'd, and yield, as it were, conformably to its own nature (a).---But this by the way.

*A Stupor
in this fe-
ver how
caused.*

11. In 1672, at the beginning of *June*, I was sent for by the earl of *Salisbury*, who had this fever, accompanied with gripings and costiveness, and he was recovered by the method proposed, which was the only one I had occasion for whilst this fever continued.

12. In young persons, and sometimes in those who were a little more advanced in years, this fever at times seiz'd the head, so that they became delirious, yet without raving, as those who grow light-headed in other fevers do, but were affected with a kind of *stupor*, nearly resembling a *carus*. This symptom chiefly happen'd in such as unadvisedly exerted their utmost endeavours to promote sweat at the beginning of the disease. I was not so happy at that time as to be able to relieve such as were attack'd with this symptom, tho' I left no method untried, and had recourse to all the medicines hitherto noted for this purpose (b).---And let these particulars suffice for the fever of this constitution.

CHAP.

(a) General success in the cure of a particular distemper is surely the best proof of the judgment of the practitioner, and the excellency of the method employed; the easier indeed the method is, the more eminently does the skill of the physician appear, and the more universally beneficial 'tis likely to prove.

(b) It were to be wish'd our author had particularly specified the method and medicines, which were unsuccessfully us'd to conquer this symptom; the failure of great men being not less instructive, in general, than their success, as it affords several useful intimations how to proceed in the like cases with greater safety and certainty. As the practice of blistering was not then established, and it appears from the forms of medicines directed by our author, that he rarely administer'd those of the warm and volatile kind, it is highly probable that both these helps were either entirely omitted, or not us'd so freely as the case should seem to require. In the present practice very ill-condition'd *stupors* are frequently remov'd by blistering freely, and exhibiting warm nervous medicines often in a moderate quantity; such as the *volatile salt of harts-horn and amber, castor, the species of diambra, camphire, saffron, Virginian snake-root, spirit of lavender, sal volatile oleosum, &c.*

Of the Measles of 1670.

1. **I**N the beginning of *January* 1671, the *measles* appeared as is usual, and increased daily till the approach of the vernal *equinox*, when it came to its height; after which it abated in the same gradual manner, and went quite off in *July* following. I intend to deliver an accurate history of this species, so far as I was then enabled to observe it, because it seem'd to be the most perfect in its kind of all those I have hitherto met with.

Therise and progress of the measles of this constitution.

2. This disease arises and terminates at the times above specified. It chiefly attacks children, especially those who live under the same roof with one that has it. (1) It comes on with a chills and shivering, and an inequality of heat and cold, which succeed alternately, during the first day; (2) the second day these terminate in a perfect fever, attended with (3) vehement sickness, (4) thirst, (5) loss of appetite, (6) the tongue white, but not dry, (7) a slight cough, (8) heaviness of the head and eyes, with continual drowsiness; (9) an humour also generally distills from the nose and eyes, and this effusion of tears is a certain sign of the approach of the measles; whereto must be added, as not less certain, (10) that tho' this disease mostly shews itself in the face by a kind of eruptions, yet, instead of these, large red spots, not rising above the surface of the skin rather appear in the breast; (11) the patient sneezes as if he had taken cold, (12) the eyelids swell a little before the eruption, (13) he vomits, (14) but is more frequently affected with a looseness, attended with greenish stools: but this happens chiefly in children, during dentition, who are also more fretful in this distemper than ordinary. The symptoms usually grow more violent till the *fourth* day, at which time generally little red spots, like flea-bites, begin to appear in the forehead and other parts of the face, which, being increased in number and bigness, run together, and form large red spots in the face, of different figures; but sometimes the eruption is deferr'd till the *fifth* day. These red spots are composed of small red pimples,

Its symptoms enumerated.

They grow more violent till the 4th day.

L

seated

Sect. 4.



seated near each other, and rising a little higher than the surface of the skin, so that they may be felt upon pressing them lightly with the finger, tho' they can scarce be seen. From the face, where only they first appear, these spots extend by degrees to the breast, belly, thighs and legs; but they affect the trunk and limbs with a redness only, without perceptibly rising above the skin.

*And do not
abate upon
the erupti-
on.*

3. The symptoms do not abate here upon the eruption, as in the small-pox; yet I never found the vomiting continue afterwards, but the cough and fever grow more violent, the difficulty of breathing, the weakness of, and defluxion upon the eyes, constant drowsiness, and loss of appetite, persisting in their former state. On the *sixth* day, or thereabouts, the eruptions begin to dry, and the skin separates, whence the forehead and face grow rough; but in the other parts of the body the spots appear very large and red. About the *eighth* day those in the face vanish, and very few appear in the rest of the body; but on the *ninth* day they disappear entirely, and the face, limbs, and sometimes the whole body seem as if they were sprinkled over with bran, the particles of the divided skin being rais'd up a little and scarce cohering, so that as the disease is going off, they fall from all parts in scales.

*The disease
usually ter-
minates on
the 8th
day.*

4. The measles therefore generally disappears on the *eighth* day (*a*), when the vulgar, deceiv'd by the term of the duration of the small-pox, affirm, that the eruptions are struck in, tho' in reality they have run thro' the course assign'd them by nature, and they suspect that the symptoms which succeed upon their going off, are occasioned by their striking in too soon. For 'tis observable that the fever and difficulty of breathing increase at this time, and the cough becomes more troublesome, so that the patient can get no rest in the day,

(*a*) Here we are told that the measles generally disappears on the *eighth* day, and just above that the eruptions disappear entirely on the *ninth* day, which may seem contradictory assertions; but the truth is that the eruptions vanish in *four* or *six* days from their first appearance in most subjects, unless the disease happens to be of a very malignant kind. Those who die in the measles ordinarily perish on the *ninth* day by suffocation. The dangerous symptoms in this distemper are great loss of strength, coldness of the extremities, restlessness, violent vomiting, a continual cough and looseness, difficult deglutition, a *delirium*, convulsions, and profuse sweats, especially in persons advancing in years.



day, and very little in the night. Children are subject to these evils, which come on at the declension of the disease, especially if an heating regimen, or hot medicines have been us'd to promote the eruption; whence arises a peripneumony, which destroys greater numbers than the small-pox or any of its concomitant symptoms; yet notwithstanding, if this disease be skilfully treated, it is not at all dangerous. These bad symptoms are likewise often followed by a looseness, which either immediately succeeds the disease, or continues several weeks after the disease and all its symptoms are gone off, with great danger to the patient, on account of the continual waste of spirits hence arising. And sometimes also, after using an exceeding hot regimen, the eruptions turn livid, and then black; but this happens only in grown persons, who are irrecoverably lost upon the first appearance of the blackness, unless they be immediately reliev'd by bleeding and a cooler regimen.

5. As the measles in its nature nearly resembles the small-pox, so does it likewise agree pretty much therewith in the method of cure which it requires: hot medicines and a hot regimen are very dangerous; tho' they are frequently used by unskilful nurses to drive the disease from the heart. The following method succeeded best with me. I confin'd the patient to his bed for only 2 or three days after the eruption, that the blood might gently breathe out the inflam'd and noxious particles, that are easily separable, through the pores, in a manner suitable to the nature of the disease; and allowed no more clothes, nor a larger fire, than he accustomed himself to when in health. I forbid all flesh meats, and permitted water-gruel, barley-broth, and the like, and sometimes a roast apple, for diet, and for drink either small-beer, or milk boiled with thrice its quantity of water. To relieve the cough, which almost always attends this disease, I ordered a draught of some *pectoral decoction* to be taken between whiles, with a *proper linctus*. But I chiefly observed to give *diacodium* every night, the distemper throughout. *e. g.*

Requires nearly the same method of cure with the small-pox. The method describ'd.

Take of the pectoral decoction, a pint and half; syrup of Apeſtoral violets and maiden-hair, each an ounce and half; mix them together for an apozem, to be taken in the quantity

Sect. 4.



*A pectoral
linctus.*

*tity of three or four ounces, three or four times
a day.*

*Take of oil of sweet almonds, two ounces ; syrup of violets
and maiden-hair, each an ounce ; fine sugar enough to
make them into a linctus, to be taken often in a small
quantity, especially when the cough is troublesome.*

*A quieting
draught.*

*Take of black-cherry water, three ounces ; syrup of white
poppies, an ounce ; mix them together for a draught, to
be taken every night.*

In children the dose of the pectorals and opiate must be diminished in proportion to their age (b).

*Its excel-
lence.*

6. This method seldom fails of curing, besides being preventive of every other symptom, which is not the necessary

(b) With respect to the method of cure, it may not be amiss to give a few further directions, taken from *Hoffman*.

If the first passages be overcharg'd with indigested matters, a gentle emetic is proper. If the children have worms, a proper purge is requisite in the beginning. Bleeding is necessary in grown persons, if there be a fulness of blood.

Heating medicines and a hot regimen render the morbid matter more ill-condition'd and subtle, increase the heat and anxiety, and exhaust the strength ; and nitrous and over-cooling medicines, especially in children, retard the eruption, and the matter being retained in the habit disposes to a mortification.

When the measles attacks hysteric women, or happens at the time of the menstrual discharge, it is often accompanied with difficulty of breathing, a contraction of the *æsophagus*, great anxiety, &c. whence the eruption is retarded. In this case the eruption is not to be promoted by warm medicines : but we are rather to have recourse to such as remedy the spasms, as glysters made of *carminatives* and *anodynes*, mild *diaphoretics*, mixt with a small proportion of *castor* and *nitre* ; and sometimes bleeding is to be us'd.

The cough, which is the most troublesome symptom, is best reliev'd by fresh-drawn oil of sweet almonds, mixt with syrup of maiden-hair, or marsh-mallows, given frequently in the quantity of half a spoonful in water-gruel.

The looseness is neither to be much encourag'd, nor hastily check'd ; as it often proves rather beneficial than detrimental, by terminating the disease, and carrying off abundance of impurities : smoothing glysters to soften the acrimonious humours lodg'd in the intestines, are safest here.

In hæmorrhages happening in this disease powerful *astringents* and *opiates* are bad. The following mixture hath been often us'd with success.

*Take of black cherry water, six ounces ; treacle water, three
drams ; diaphoretic antimony, and diascordium, of each, half
a dram ; spirit of vitriol, twenty drops ; syrup of red poppies
two drams ; mix them together.—Give two or three spoonfuls
every three hours.*

necessary and unavoidable attendant of the disease: the cough is the most troublesome one, which however is nothing dangerous till the disease be gone off, after which, if it should continue a week or two, it may be easily cured by the use of the open air, along with proper pectorals; and indeed it generally abates by degrees spontaneously, and at length ceases (c).

7. But if, by using cardiacs and too hot a regimen after the departure of the disease, the patient's life be endangered (which is a very common case) by the violent fever, difficulty of breathing, and other symptoms that usually afflict such as have a peripneumony, I have with great success ordered even the tenderest infants to be blooded in the arm, in such quantity as their age and strength indicated. And sometimes also, when the disease has been urgent, I have not fear'd to repeat the operation. And in reality, by bleeding, I have snatch'd abundance of children from imminent death. These symptoms arise in children upon the departure of the measles, and prove so fatal, that they may justly be esteemed the principal ministers of death, destroying greater numbers than the small-pox: nor have I hitherto discovered any other certain method of conquering them. Bleeding also cures the looseness, which, as we said, succeeds the measles (d); for as it arises from the *effluvia* of the inflam'd blood, flowing into the intestines, (as is likewise usual in the pleurisy, peripneumony, and other diseases caus'd by inflammation) and irritating them to discharge their contents, this remedy alone will relieve, as it makes a revulsion of those sharp humours, and likewise reduces the blood to a due temper (e).

The mischief ensuing from a hot regimen and cardiacs after the disease is gone off, how remedied.

8. Nor need any one be surprized at my bleeding young children, since, as far as I have hitherto been able to observe, it may be as safely performed in them as in

Bleeding as safe in children as in adults.

L 3

grown

(c) Here is no mention made of purging after the disease is gone off, the omission whereof notwithstanding has been frequently found to occasion very dangerous and stubborn disorders; as internal abscesses, malignant ulcers, *caries* of the bones, a consumption, dropsy, blindness, &c. Let it be remember'd therefore that purging is almost equally necessary after this distemper, as after the small-pox.

(d) See above, *Par.* 4.

(e) Gentle purging with *rhubarb* should seem advisable here; and join'd with moderate exercise, and the use of the open air, will probably effect a cure. Bleeding may occasionally be proper, but cannot be said to make a revulsion of sharp humours, which in this case purging seems best adapted to remove.

Sect. 4.

*Its use in
convulsions
during den-
tition.*

grown persons. And indeed it is so necessary in the fever abovementioned, and in some other disorders which children are subject to, that there is no curing them without it. For instance, how are children to be relieved without bleeding during dentition, in the convulsions happening to them in the ninth or tenth month, accompanied with a swelling and pain in the gums, whence the nerves are compressed and irritated, and the fits also proceed? In this case bleeding alone is to be preferred to all the celebrated specifics yet known; some of which prove detrimental by their adventitious heat, and whilst they are supposed to cure the disorder, increase it by their manifest heat, and destroy the patient. Not to mention at present the great relief which bleeding affords in the *hooping-cough* in children, in which it far exceeds all kinds of pectorals whatever.

*A case re-
lated,
wherein it
did service.*

9. What has been said of the cure of those symptoms succeeding the measles after its disappearance, may sometimes also hold good when the disease is at the height, provided the symptoms be occasioned by an artificial heat; if the expression may be allowed me. In 1670 I attended a maid-servant of Lady *Ann Barington*, who had the measles, joined with a fever, difficulty of breathing, purple spots over the whole body, and many other dangerous symptoms, all which I ascribed to the hot regimen and medicines which had been too freely used. I directed bleeding in the arm, and prescribed a cooling pectoral pilsen to be taken often, by means of which, and a more cooling regimen, the purple spots and all the other symptoms went off by degrees.

10. This disease, as abovementioned(*f*), began in *January*, and increased daily till the approach of the vernal equinox, after which it decreased gradually, and totally disappeared in the following *July*, without returning again during the course of years wherein this constitution prevailed, except that in the following spring it appeared in a very few places.---And let this suffice for the measles.---

C H A P.

(*f*) See above, *Par. 1.*

C H A P. VI.

Of the anomalous or irregular Small-pox
of the Years 1670, 1671, and 1672.

1. **T**He measles, as we said before (a), introduced a different species of *small-pox* from that of the preceding constitution. It arose much about the same time as the measles did, namely in the beginning of *January*, 1670; And tho' it was not so epidemic, it notwithstanding accompanied that disease whilst it prevailed, and continued after it went off, as long as this constitution lasted. Nevertheless it yielded to the dysentery, which rag'd in autumn, this season being peculiarly disposed to favour it. But in the winter this kind of small-pox returned again, the dysentery being overcome by the cold. In this order did these distempers succeed each other thro' the whole terms of years of this constitution, except that in the last *autumn* it prevailed, namely in 1672, the constitution being then in its decline, and slowly promoting the dysentery, which at that time was also declining, the small-pox, contrary to custom, raged also at the same time, and prevailed so equally with the dysentery, that it was not easy to ascertain which of the two diseases attacked greater numbers, but, as far as I could conjecture, the dysentery should seem to have been chiefly prevalent. Moreover, this small-pox also, like other epidemics, was very violent in the beginning, and increased daily till it came to the height, after which it decreased by degrees, both with respect to the violence of the symptoms, and the numbers attack'd thereby.

*The rise and
progress of
a new kind
of small-
pox.*

2. But to set down its particular signs. I was much surpriz'd upon the rise of this small-pox, when I found that it differed in several considerable symptoms from the kind produced by the preceding constitution, which I had formerly observed with particular attention. At present I shall only treat of the symptoms that differ from those of the other kinds, without taking notice of those it had in common with that sort of small-pox so fully described in the foregoing sheets.

L 4

3. The

(a) See above, Chap. I. Par. 4.

Sect. 4.

The signs of
the distinct
kind.

3. The distinct kind of this small-pox differed from the common distinct one of the preceding constitution, only in the following symptoms. (1). The eruptions generally came out on the *third* day, which indeed is usual in the confluent sort, whereas in the distinct kind of the former constitution they appeared not before the *fourth* day; (2) they did not grow so big in the course of the disease, as those of that kind, but (3) were more inflamed, and in the declension, after their suppuration, frequently look'd black; (4) sometimes, but very rarely, a spitting happened, as in the confluent kind, tho' the eruptions were very few: whence it appears that the small-pox of this constitution greatly resembled the confluent kind, and was attended with a more violent inflammation than is usual in the distinct.

The signs of
the confluent
kind.

4. But the confluent species of this constitution differed from those I had observed in other years in several particulars, which I shall here enumerate. (1). The eruptions sometimes appeared on the *second* day, at others on the *third* in form of an equal reddish swelling, covering the whole face, and thicker than an *erysipelas*, nor could any spaces easily be perceiv'd between the eruptions; (2) the rest of the body appeared to be overspread with an almost infinite number of red, inflam'd pustules, joined together in one; (3) in the intermediate spaces whereof, especially in the thighs, little bladders arose, like those occasioned by burns, full of a limpid *serum*, which flowed out plentifully, upon the bursting of the skin, the flesh underneath appearing black, and as if it were gangren'd. But this dreadful symptom happened very rarely, and only in the first month wherein this species prevailed.

5. Amongst the rest who were thus grievously affected at this time I was sent for, in the beginning of *January* 1670, by Mr. *Collins* a brewer in St. Giles's parish, to his son, an infant, who had bladders on his thighs as large as a walnut, and full of a transparent *serum*, which afterwards bursting, the flesh underneath appeared as it were quite mortified, and he died soon after; as did all those I had seen attack'd with this dreadful symptom.

6. (4) About the *eleventh* day a white shining pellicle extended itself over the reddish humour in several parts of the face, and by degrees over the whole; (5) soon after this pellicle discharged a shining crusty matter, not indeed of a yellow or brown colour, both which were ob-
served

served in the other kind of small-pox, but of a deep red, like congealed blood, which as the pustules ripened grew every day blacker, till at length the whole face appeared as black as foot: (6) and whereas in the other kind of confluent small-pox the patient was in most danger on the *eleventh* day, which put an end to the lives of the greatest part of those that died; in this sort, unless an extreme hot regimen destroyed him in a shorter time, he generally liv'd till the *fourteenth*, and sometimes to the *seventeenth* day, after which the danger was over. (7) But it must be noted that those who had the fatal bladders with the mortification, which happened to some in the first month wherein this kind arose, as above related, died in few days after the eruption.

7. (8) The fever, and all other symptoms, which either preceded or accompanied this species of the small-pox, were more violent than in the foregoing kind, and it had manifest signs of greater inflammation; (9) the patient was more subject to a spitting; (10) the pustules were considerably more inflamed, and much smaller, so that it was difficult upon their first appearance to distinguish them from an *erysipelas*, or the *measles*, unless that the latter certainly manifested itself by the day of the eruption, and other symptoms, above enumerated in the history of this disease; (11) the scales remained a long time after the eruptions vanished, and left more unseemly scars behind them. 'Tis well worth noting, that throughout the whole course of years which this constitution lasted, wherein the dysentery rag'd so epidemically, the small-pox, when exasperated by an immoderate hot regimen, sometimes terminated in a dysentery.

8. But 'tis proper to observe that this small-pox was not attended with such fatal symptoms during the whole time of its continuance, for, after having prevailed two years, it began to grow milder in the third year, namely in 1672, and the eruptions, having lost their blackness, grew by degrees yellow, like a honey-comb, which is peculiar to the regular small-pox, during the suppuration of the pustules, so that in the last year of this constitution it prov'd very mild and gentle, considering its kind. Nevertheless it is manifestly to be referr'd to a quite different species, on account (1) of the remarkable small-

This small-pox became more gentle in the 3d year.

Sect. 4. smallness of the eruptions, (2) the tendency to a salivation, and (3) other concomitant symptoms.

The method
of cure.

Advantages of
drinking
cooling li-
quors plen-
tily.

9. Tho' our ignorance of the causes of every specific difference be such as makes it impossible for us to comprehend wherein this small-pox differs from those produced by the other constitution; yet, to me, it plainly appears, from its several concomitants, that this species was attended with greater inflammation than the other, and therefore that the whole of the cure consists in giving a greater check to the violent ebullition of the blood. And this is chiefly effected by a temperate regimen, after exhibiting opiates, as above directed; *e. g.* allowing the free use of some liquor that is not heating, but will rather immediately abate the violent heat wherewith this disease is attended, especially during the time of the suppuration of the pustules. The *white decoction*, made of bread and a small quantity of burnt hartshorn, boiled in a large proportion of water, and sweetened with sugar, is beneficial here; but *milk boiled with thrice its quantity of water* is generally a more grateful liquor, and better answers the end of cooling: nor is abundance of liquor only proper to diminish the extreme heat, which chiefly prevails during the *secondary fever*, but it also promotes the salivation, and keeps it up longer than it could be continued if the patient were over-heated. And, further, I have often observed that cooling liquors, drank plentifully, have succeeded so well, that by the use thereof the small-pox, which appeared at the beginning with the worst signs of the confluent kind, hath in the course of the disease been rendered distinct; and the eruptions, which as they ripened, would otherwise have first discharg'd a red, and soon after a black matter, have look'd very yellow, and, instead of being inflamed and very small, proved of a mild and good kind.

10. Nor does the menstrual discharge, which frequently happens to women in this disease, at all forbid, but rather encourage the free use of these liquors, especially if it comes at an unusual time. For women are endangered here from no other cause but from the blood's being too much attenuated, so that it escapes where it can find a passage, agreeably to the course of nature; especially when unskilful nurses add oil to the flame, by using a hot regimen, and a decoction of *hartshorn*, with *flowers of marigold*, &c. Now whatever greatly

greatly dilutes and cools the blood, inasmuch as it checks this flux, does necessarily, tho' not immediately, tend to preserve the eruptions, and the swelling of the face and hands in their due state, whereas contrariwise heating remedies, notwithstanding they may seem better suited to this purpose, yet, as they promote this discharge, they fall far short of answering the end. And I doubt not but abundance of women have perished by the mistake of such as had care of them, who apprehending the sinking of the eruptions from this discharge, have endeavoured to prevent it by a hot regimen and cardiacs, by which means the patient hath been certainly destroy'd, tho' at the same time they solicitously endeavour'd to stop the hæmorrhage, and keep the eruptions and swelling at the proper height, by mixing different astringents with the cardiacs.

II. I lately attended a lady, who had this dangerous black small-pox, and tho' I forbid every thing at the beginning that might agitate the blood, yet as she was of a very sanguin complexion, in the flower of her age, and of a lively disposition, and the weather at the same time very warm, she was suddenly seized, on the 3d day after the eruption, with so copious a menstrual discharge, at an unusual time, that the women about her suspected she had miscarried. Tho' this symptom was very urgent for several days, yet I did not therefore judge that the use of the milk and water was to be discontinued, but rather esteem'd it more necessary, and to be drank plentifully now, and likewise thro' the whole course of the disease, particularly upon the coming on of the *suppuratory fever*. At this time Dr. *Millington*, formerly my fellow-collegiate, and at present my intimate friend, was joined with me, who observing that every thing went on very well, according to the nature of the disease, readily consented that our patient should persist in drinking freely of the liquor above-mention'd, which she often declared was particularly grateful to her, promoted the spitting, and both cool'd and refreshed her. But when the face began to harden, and to be crufted over, we apprehended our patient would be injur'd by the putrid vapours proceeding from the purulent matter of the eruptions, which had a very fetid smell in this worst kind of small-pox, and therefore directed a few spoonfuls of *mulled sack*, to be taken once a day, or as often as

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where the
menstrual
discharge
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during the
small-pox.*

the

Sect. 4. she perceived any sickness at her stomach. And by the use of these few things, along with a *quieting draught* every night, she recovered, without having been attacked with a *delirium*, or any other very dangerous symptom, except the hæmorrhage abovemention'd. The face and hands swelled sufficiently, the eruptions were as large as this sort of small-pox would permit, and the salivation was easy and copious to the end; and, lastly, tho' the eruptions in the face seem'd blackish whilst they ripened, yet they were yellow in most other parts.

Where unnecessary.

12. But how much soever the kind of small-pox, peculiar to this constitution, exceeded those of other constitutions in point of heat and inflammation, yet when the eruptions were distinct, or few, experience shew'd it to be needless to drink so copiously of the abovementioned liquors. But it suffic'd if the patient drank small-beer, as the thirst required, and supp'd water-gruel, and panada, and sometimes eat a roast apple, and, if he exceeded *fourteen*, took a dose of *syrup of white poppies*, when sick, or delirious for want of rest; and I did nothing more when the pustules were few, except keeping the patient in bed. By this method alone my son *William* was recovered in this distinct sort of small-pox, in *December, 1670*.

13. I shall add nothing more relating to the small-pox of this constitution, as having treated of the other species at large, from which the present only differs by being of a hotter and more inflammatory nature; whence it follows that more care was required in order to diminish the considerable heat, which was so natural to it, and so certainly threaten'd destruction to the patient.

C H A P. VII.

Of the bilious Colic of the Years 1670, 1671, and 1672.

The bilious colic, why treated of here.

I. **D**URING all the years of this constitution the blood was signally dispos'd to deposite hot and cholerick humours in the intestines, whence the *bilious colic* prevail'd more than ordinary; which disease, tho' it should be reckon'd amongst those of the chronic kind, and consequently foreign to my purpose, yet as it depended
on

on the same indisposition of the blood at that time, from which most of the then prevailing epidemics arose, it should for this reason be treated of here; but especially because I perceiv'd that the same febrile symptoms preceded it, which usually preceded the reigning *dysentery* of those times. And sometimes also this distemper, as above remark'd, succeeded the dysentery, when it had continued a long time, and seem'd to be going off. But when it did not succeed an inveterate dysentery, it generally arose from a fever, which afflicted the patient only for a few hours, and ordinarily terminated in this disease.

2. It chiefly attack'd young persons of a warm and bilious constitution, especially in the summer season.

Its symptoms.

(1) A violent and intolerable pain of the bowels attends it, which sometimes seem to be tied together, and at others closely purs'd up, and bor'd through, as it were, with a sharp-pointed instrument: the pain abates between whites, and immediately the fit comes on again.

(2) In the beginning the pain is not so certainly fixt in one place, as in the progress of the disorder, (3) and the vomiting is less frequent, and the belly more easily mov'd by purgatives; (4) but as the pain increases, it becomes more obstinately fixt in one place, (5) frequent vomitings succeed, and the belly is less soluble, till at length (6) the unavoidable violence of the symptoms occasions a total inversion of the peristaltic motion of the guts, (unless the patient be reliev'd sooner) and consequently an *iliac passion*, in which distemper all cathartics immediately become emetic, and glysters likewise, together with the *fæces*, are forc'd up the intestinal tube, and ejected by vomit. If the matter thus ejected be quite pure, it is sometimes green, sometimes yellow, and sometimes of an uncommon colour (a).

3. As

(a) The *bilious colic* proceeds (1) from an acrimonious, corrupt, bilious humour, copiously collected, and stagnating in the small guts, especially in the *duodenum*; and (2) frequently from a furious passion, especially in young persons of a warm and dry constitution, in the summer season. I knew a person in years, otherwise subject to this disorder, who every time he put himself in a violent passion, as certainly had a fit of it soon after, in one of which he, at length, died in a few hours. Or (3) this disorder is occasioned by too free an use of spirituous and hot liquors.—Its principal symptoms are (1) a hoarseness, (2) *cardialgia*, (3) continual loathing of food, (4) vomiting of green bile, (5) an hiccup, (6) a

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How to be
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proceeds
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3. As all the signs of this disease clearly shew it to arise from some sharp humour, or vapour, thrown off from the blood into the intestines; I judge the primary indication of cure, (1) to consist in evacuating both the *antecedent* humour in the veins, and that contained in the intestines; and the next, (2) in checking the great tendency of the humours to the parts affected, and easing the intolerable pain, by exhibiting opiates (*b*).

4. In order hereto I bleed freely in the arm, if no blood has been taken away before, and in three or four hours after administer an opiate. The next day I direct some lenient purgative, and order it to be repeated a second time, at a day's interval, and sometimes a third time according as the remains of the humour seem to be more or less in quantity. But it must be observed that if this disease proceeds, either from a surfeit of fruit, or any other kind of aliment of difficult digestion, whence depraved and corrupt juices are first received into the blood, and thence separated into the intestines; in these cases the stomach must first be well cleansed by drinking posset-drink plentifully, and vomiting it up again, which being over an opiate must be given, and a vein opened the next day, and, in other particulars, the process above delivered is to be followed (*c*).

5. But

(5) a hot and feverish indisposition, (7) restlessness, (8) great thirst, (9) a bitter taste in the mouth, to which (11) there sometimes succeeds a frequent discharge of bilious matters downwards.

When the bilious colic attacks with a shivering, and the pain is exceeding violent, great danger attends it; an inflammation being denoted hereby, which, if not remedied, terminates in a mortification.

(*b*) It may not be amiss to observe here that the medicines in this species of the colic should rather be exhibited in a tepid than a hot vehicle, and warm infusions and decoctions, a sweating regimen, and very hot bathing forbore; the bilious humour being exasperated by this means, and made to penetrate more intimately into the nervous parts. And indeed we learn from practical observations that the drinking of cold water only, which *Galen* us'd in this disorder, is highly beneficial, and curative thereof. This advice is worth attending to, more particularly if it be occasion'd by a furious passion. But this necessary caution is to be inculcated, that in all cases where there is reason to apprehend an inflammation, cold water must absolutely be refrained; otherwise fatal consequences may ensue.

(*c*) I do not perceive, says the ingenious *Huxham*, what service bleeding can do now, unless the immoderate quantity, velocity, or heat of the blood requires it, previous to all other helps; and besides

5. But when the violence of the pain, and the vomiting, whence the intestines are in a manner inverted, Chap. 7.

besides in plethoric habits 'tis dangerous to exhibit a vomit, unless bleeding has been first perform'd.

He goes on. I use the following emetic.

Take of the root of *Ipecacuanha*, a dram, or a dram and half; salt of wormwood, half a scruple; boil in four ounces of spring water to two; strain off the liquor; to which add of the compound distill'd water of camomile flowers, and the syrup of buckthorn, each half an ounce: mix them together for a vomiting draught.—To promote the operation, let thin chicken broth be drank plentifully, or an infusion of the leaves of sage, and camomile flowers, which latter I most approve.

This emetic appears to be the gentlest of all those I have yet tried, is a sufficiently powerful cleanser, and the most certain in its effects; for it will work speedily, and not occasion gripings by continuing long in the stomach; which *Ipecacuanha*, taken in powder, often does. When I would have it stronger, I add two or three grains of emetic tartar, or a spoonful or two of the infusion of *CROCUS METALLORUM* thereto.

Huxham de morb. col. Damnoniorum, p. 25.—27.

When the colic proves very severe, opiates should be joined with purgatives, in order to ease the pain, relax the intestines, and render the peristaltic motion constant and regular.—All pain acts as a stimulus, or the stimulus, more properly, causes the sensation of pain; every stimulus drawing the fibres into contractions, and, if violent, into spasms. If therefore the pain in the colic be extremely urgent, it occasions convulsions in some parts of the intestines, and they are, as it were, tied together, so that, unless the pain be mitigated, neither *feces* nor *flatus* can be discharg'd by the anus; for which reason a vehement colic is mostly accompanied with great costiveness. In this case, therefore, opiates are conveniently mix'd with purgatives.—c. g.

Take of the lesser Pil. cochix, a scruple, or half a dram; calomel, half a scruple; solid laudanum, a grain; oil of cloves, one drop; make them into pills. Or,

Take of the powder of jalap, a scruple, or half a dram; species diambra, eight grains; calomel, half a scruple; syrup of buckthorn, enough to make them into a bolus.—But pills are best retained.

Two or three hours after exhibiting either of these, or the like, I give an infusion of senna, a solution of manna, or something of this kind, to which I sometimes add oil of sweet almonds, or oil-olive, unless the patient has a great aversion to oil. I increase the dose of these remedies, and repeat them, according to the urgency of the symptoms. These medicines ease the pain, relax and lubricate the bowels, and gently stimulate them to discharge their contents. But if, notwithstanding the use of these, the body continues bound, I order the abdomen to be fomented with an emollient fomentation, especially when it is much distended and hardened, or considerably contracted by spasms. The mild vapour hereof penetrates the coats of the abdomen, softens and

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The purgatives when to be made stronger.

An opiate when to be given before a purgative.

ted, do not yield to purgatives, they must be made stronger, for it avails not to exhibit a gentle cathartic, unless perhaps the patient be easy to work upon, which should be carefully enquir'd into, because such a medicine, being too weak to make its way thro' the intestinal tube, does more mischief, the vomiting and pain being increased by its languid and ineffectual motion. A lenitive purging potion, made of an infusion of *tamarinds*, *sena*, and *rhubarb*, in which *manna* and *syrup of roses* may be dissolv'd, is to be preferr'd to other purges, because it disturbs and agitates the juices less. But if this cannot be retained in the stomach, either (1) because the patient has an aversion to a liquid medicine, or (2) on account of the vomiting, recourse must necessarily be had to pills, amongst which I esteem *pil. cochicæ* most, because it operates best in this and most other cases. But where either (1) thro' the weakness of the stomach, or (2) the vomiting, pills cannot be retained, I first prescribe an opiate, and in a few hours after a purgative, at such a proper interval, for instance, that the latter may not be overcome, and render'd ineffectual, but continue long enough in the stomach to communicate its purging quality thereto, so that it may at length operate immediately after the virtue of the

and supple the intestines, and relaxes the too tense and rigid fibres. I have often found wonderful effects follow upon the application of such a *fotus*.—For instance.

Take of the roots of marsh mallows, linseed, and fenugreek seed, each three ounces; camomile flowers, three handfuls; white poppy heads, four ounces; boil them together in equal parts of milk and water, for a fomentation.

But greater service may be expected from using it by way of *semicupium*. *Id.* p. 29, 30, 31.

Hoffman likewise observes that *warm bathing* cures all such distempers as proceed from a contraction of the parts of the lower belly. Of this kind are pains in the intestines, gripings, violent convulsive colics, heavy pains and contractions, occasioned by the stone in the kidneys, and attended with suppression of urine, costiveness, &c. in all which cases the *warm bath* is eminently serviceable. It must however be observed, in the convulsive colic proceeding from a stagnation of the blood, if the body is full or overcharged with juices, *warm bathing* becomes unsafe; except some blood be first taken away. But in such colics as proceed from hardness of the excrements, a *bath* prepared with emollient ingredients is highly serviceable, along with proper laxative medicines, such as oil of sweet almonds, *manna*, *EPSOM salt*, cream of tartar, &c. See *New experiments and observations upon mineral waters*, &c. translated by Dr Shaw, p. 192, 193.

the opiate is gone off. However, if the case will admit, 'tis best to give the purge a considerable time after the opiate, because it operates with difficulty, even twelve hours after the exhibition of the opiate. Chap. 7.

6. But because a purge always increases the pain in this and most other diseases where opiates are indicated, at least when the operation is over, the patient sometimes finding relief whilst it works, I generally give an opiate immediately after it has done operating, and order it to be repeated daily morning and evening, on the intermediate days, that I may more certainly ease the pain, till purging has been sufficiently perform'd.

One to be exhibited when the purge has done working.

7. When the affair of purging is over, I endeavour to check the violent motion of the humours, which is all that now remains to be done; by exhibiting an opiate every morning and evening, which must sometimes be repeated oftner: nor have I ever been able to ease very violent pains, without administering a larger dose than ordinary, and repeating it. For what might be sufficient to overcome another disease proves ineffectual in this, the violence of the pain destroying the force of the medicine. Opiates may be safely repeated whilst this kind of pain continues violent, but not after it ceases; for which reason I repeat the opiate in proportion to the violence of the pain, till it either goes quite off, or abates considerably; observing however to administer it at such convenient intervals, that I may know what effect is to be hop'd for from the former dose, before I proceed to give another. But, in general, unless the pain be very severe, it will suffice to exhibit an opiate morning and evening. The opiate I commonly use is the *laudanum* above described (d); of which I give sixteen drops at a time, in some distilled cordial water; or the dose may be augmented occasionally, in proportion to the violence of the pain.

To be given morning and night after the affair of purging is over.

8. This plain method, whereby (1) the peccant humour is discharg'd by bleeding and purging, and then (2) ease procur'd by means of opiates, has always succeeded better with me than any other I ever knew: whereas carminative glysters, injected in order to expel the sharp humours, prolong the disease by raising a disturbance in the juices. But I would have it particularly remarked here, that 'tho I have affirmed that bleeding and purging must

Carminative glysters bad.

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(d) See above, Chap. III. Par. 14.

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When the
cure is to be
begun with
opiates.

necessarily precede this quieting method, yet sometimes, when the case demands it, omitting both, the cure is to be begun with opiates. For instance, when, by reason of some preceding illness, large evacuations have been used not long before the colic began; for frequently such as have recovered lately from some other disease, are suddenly attacked with this, from a weakness of the bowels, especially if a greater degree of heat be occasioned by too free an use of wine, or any spirituous liquor: Now in this case I esteem it not only unnecessary but detrimental to raise fresh commotions, by giving more purges. Not to mention that the patient, in this disease, has generally cleansed his bowels sufficiently, by the frequent use of glysters, before applying to a physician; so that partly upon this account, and partly on account of the long continuance of the disease, it should seem that only opiates ought to be exhibited.

Exemplified
in a case.

9. In August, 1671, I was sent for to *Belvoir* castle by lord *Annesley*, who had been afflicted for some days with a bilious colic, attended with exquisite pain, and frequent vomiting. He had tried all kinds of glysters, and other remedies directed by the neighbouring physicians: I immediately advised the repeated use of opiates, in the manner above delivered, and by this means he recovered in a few days, and returned to town with me in good health.

Riding on
horseback
excellent to
promote the
cure.

10. As this pain of its own nature is more apt to return than any other, all occasion of relapse is to be prevented by exhibiting an opiate twice a day for some time. But if it should return upon omitting the opiate, as it sometimes happens, I have hitherto discover'd nothing that will so certainly promote the cure, as taking long journeys on horseback, or in a coach, observing in the mean while to give an opiate every morning and evening. For by this kind of exercise the morbid matter is brought to the habit of the body, and the blood, broken and divided by the continual motion, does, as it were, undergo a new depuration, and at length the bowels are greatly strengthened and refresh'd by this way of rousing the natural heat (e). Nor do I think it beneath

(e) Nothing strengthens the *viscera* and intestines more than riding on horseback; for by the very different and frequent agitation of the body which this exercise occasions, it gently shakes all the

beneath me to own that I have frequently cured this disease by this exercise, when all other means had fail'd me. But this must not be attempted, unless sufficient evacuations have been previously made, and is to be persisted in several days afterwards. Chap. 7.

11. During these years one of my poor neighbours, yet living, was seized with a most violent bilious colic, which he had long endeavoured ineffectually to relieve by cathartics, glysters, and swallowing leaden bullets. I had recourse here to the frequent use of opiates, nor did they prove unsuccessful, for he remained tolerably easy whilst he was taking them. But perceiving they only palliated and did not eradicate the disorder, for it returned immediately after the effect of the opiate was gone off, I had compassion on the man, labouring under low circumstances, and a violent disease, and lent him a horse to ride to a considerable distance as above directed; and after riding a few days, his bowels became so strong as to be able to expel the remains of the disease, and he recovered perfectly by this means without the assistance of opiates. *Instance'd in a case.*

12. And, to speak the truth upon this occasion, I have always known this kind of exercise used with great success; not only in this case, but in most other chronic diseases, provided it were resolutely persisted in. For if we consider that the lower belly, wherein all the secretory organs are seated, is greatly shook by this exercise, perhaps some thousand times a day, we shall readily believe that they are hereby enabled to shake off any gross fizy humour fixt there; and (which is still more mate-

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rial)

the parts of the lower belly, and by this means drives out all viscidities contain'd in the bowels and blood-vessels, and eminently promotes the circulation of the blood thro' the mesenteric vessels and the ramifications of the *vena porta*, where it circulates slowest. Hence it dissolves the blood, which is in a manner congealed, partly by the violence of the disease, and partly by its long continuance in those parts, and consequently opens the obstructions of the glands of the liver, *pancreas*, mesentery and intestines, and likewise greatly assists the action of the spleen, which sends the blood to the liver. Moreover it appears by numerous experiments, that perspiration is much increas'd by riding; whence it proves serviceable not only in this, but in most chronic diseases, by deriving the noxious humours to another part, and expelling them by the pores. In reality, riding only has cur'd where tedious courses of medicine have fail'd; when therefore the patient can sit a horse, let him ride every day. See *Huxham de morb. colic.*

Dammon. p. 38.

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*The regi-
men in this
disease.*

*Cordials to
be given
when it
proves in-
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*A slender
diet to be
continued
for some
time after
the cure.*

rial) so strengthened, by this powerful rousing of the natural heat, as to be able to perform the function of purifying the blood, assign'd them by nature, in a proper manner.

13. In young persons of a hot constitution I direct a cooling and incrassating diet, *viz.* barley-cream, panada, &c. and a small chicken, or a boiled whiting every third day, if the appetite continues craving. I allow only small-beer, or milk boil'd with thrice the quantity of water, for drink: and I indulge nothing further, unless riding, which is necessary to compleat the cure, requires a more nourishing diet, and the use of some generous liquor, to recruit the loss of spirits occasioned by exercise (f).

14. Moreover 'tis manifest from observation that when this disease thro' wrong management proves of long standing, so that the bowels become weak, and the patient is extremely emaciated and debilitated, the free use of *plague water*, *AQUA MIRABILIS*, or some other cordial that was most grateful to him when in health, relieves at this time beyond expectation. For by this means the small remains of the natural heat are roused; and the preternatural ferment lodged in the bowels, which occasions fresh fits between whites, render'd inactive.

15. The slender diet abovementioned must be continued, not only thro' the course of the cure, but for some time after the disease is gone off; for as it is more apt to return than any other, and besides is seated in the principal instruments of concoction, which are the bowels, already weakened thereby, the least error of this kind will immediately occasion a relapse. And therefore

(f) To restore the due mixture of the blood, and strengthen the viscera, *chalybeates* and *stomachics* are very proper. I use the following infusion.

Take of the roots of gentian and galangal, each half an ounce; CALAMUS AROMATICUS, and dried SEVIL orange-peel, each two ounces and half; cloves, two drams; steel prepar'd with tartar, three ounces; pour upon them of mountain wine, three pints and half; compound wormwood water, a pint and half: let them stand in infusion for at least twelve days in a glass vessel, observing to shake it often. When the viscera are weak, and the body is full of phlegmatic humours, this infusion is extremely proper, as not being at all disagreeable to the stomach. Id. p. 37:

fore all aliment of difficult digestion must be carefully avoided, both in this and all other disorders of the bowels, and food of easy digestion used very sparingly. Chap. 7.

16. Some women are afflicted with an hysteric disorder, so nearly resembling the bilious colic in (1) the sharpness of the pain, (2) its seat, and (3) the yellow and green colour of the matter discharged by vomit, that I will treat of it by the way, lest it be erroneously taken for the disease just mentioned. *The hysteric colic described.*

17. Females (1) of a lax and gross habit of body are chiefly subject to it, as are (2) likewise such as have formerly had some hysteric indisposition, or (3) which frequently happens) those who have just recovered of a difficult labour, occasioned by the largeness of the infant, whereby the mother's strength and spirits were nearly exhausted. (1) It attacks the region of the stomach, and sometimes the parts just below it, with as violent a pain as accompanies the colic, or iliac passion; which (2) is succeeded by exorbitant vomitings, sometimes of green, and sometimes of yellow matter; (3) and with these symptoms, as I have frequently observed, there is joined a greater lowness of spirits and despondency than occur in any other disease. The pain goes off in a day or two, but returns again in a few weeks after, and rages with as much violence as ever, before the fit terminates. 'Tis sometimes attended with a remarkable jaundice, which vanishes spontaneously in a few days. When the symptoms are all gone off, and the patient seems pretty well recovered, the least disturbance of mind, whether proceeding from anger or grief, to both which women are extremely subject in this case, is apt to occasion a relapse. Walking also, or any other exercise used too soon will do the same; such causes being productive of vapours in lax and weak constitutions. I use the term *vapours* with the vulgar, but whether they be vapours, or convulsions of particular parts, the phenomena may be equally accounted for. *what women most subject to it.*

18. When these *vapours*, or convulsions, attack any particular part of the body, they produce such symptoms as are natural to the part affected; whence, tho' they every where constitute the same individual distemper, yet they artfully resemble most diseases incident to mankind; as plainly appears from the disease under consideration, *A relapse how occasioned.*

Sect. 4.



A case
wherein
they coun-
terfeited the
stone in the
bladder.

ration, which exactly counterfeits the bilious colic, when it attacks the parts adjacent to the *colon*. And this is equally manifest also in many other parts of the body affected with this disease. For instance, it sometimes attacks one of the kidneys with a violent pain, occasioning excessive vomiting; and being frequently conveyed thro' the ureters, it counterfeits the stone, in which case, the pain being increased by glysters and other *lithontriptic* medicines used to bring away the stone, it continues with the same violence for a long time, and sometimes destroys the patient, contrary to its nature, as being of itself not dangerous (g). I have also known it occasion a train of symptoms exactly like those of the stone in the bladder. I was called up lately in the night to a countess in the neighbourhood, who was seized, on a sudden, with a very severe pain in the region of the bladder, along with a stoppage of urine; and having learnt that she was subject to various hysteric complaints, I conjectur'd that the disorder was mistaken, and therefore forbid the injecting a glyster, which her maid had got in readiness, as apprehending it might be augmented thereby, and instead of this and the emollients brought by the apothecary, such as the *syrup of marshmallows*, &c. I administered an opiate, which soon removed the disorder. In reality, no part of the body, either external or internal, is quite free from the attacks of this distemper, as the jaws, hips and legs, in all which it causes intolerable pain, and when it goes off leaves such a tenderness of the part behind, that it cannot bear the touch, as if the flesh had been bruised with abundance of stripes.

19. Having now, by way of digression, deliver'd some particulars

(g) I have myself met with an instance of this kind of pain in a lady, who had taken *laxatives, carminatives, and oleous medicines* by the mouth and glysterwise with no effect. Upon enquiry therefore finding that she was much subject to hysteric complaints, I directed the following draught to be taken immediately, and ordered it to be repeated every six or eight hours, according to the urgency of the symptoms, and the pain was entirely remov'd thereby in twenty four hours. And the lady being some months after affected again in the same manner, had recourse to the same medicine with equal success.

Take of the distill'd waters of pennyroyal and rue, each six drams; compound briony, and compound camomile water, each three drams; tincture of castor, and of amber, and liquid iaudanum, each fifteen drops; syrup of white poppies, two drams: mix them together.

particulars belonging to the history of the *hysteric colic*, to prevent its being taken for the *bilious colic*; I will briefly treat of some other particulars relating to the cure of the symptom of pain attending it: for the *radical* cure of the disease itself, which is effected by removing the cause, is a quite different subject, and to be considered in another place.


Chap. 7.

20. Bleeding and repeated purgation, which are so manifestly indicated in the bilious colic, at the beginning, should be omitted here, except in the case hereafter to be mention'd. For experience shews that the pain and other symptoms are increas'd by the disturbance caused by these evacuations, and I have often observed that the repetition of the gentlest glysters hath occasioned a continued train of symptoms. For if we take a view of the causes whence this disease generally proceeds, both reason and experience teach that it is rather owing to an irregular motion of the spirits, than to any depravity of the juices. Now these causes are either (1) copious and preternatural hæmorrhages, (2) inordinate passions of the mind, (3) violent exercise of the body, and the like; in all which, such medicines as increase the hurry of the spirits are improper, and opiates are to be exhibited in their stead, tho' the green and ill colour of the matter ejected by vomit should seem to contraindicate. For the consideration of colours is of too subtle and refin'd a nature to authorize such evacuations as experience proves to be detrimental. And I doubt not but this disease, which, tho' it be very painful, does no way endanger life, hath prov'd fatal to abundance of persons, thro' mistakes of this kind. To this may be added, that tho' a very powerful emetic be given to day, in order to expel the supposed cause of the disease, yet the patient will the next day vomit a matter, equally green, or of some other bad colour, like the former.

The pain in the hysteric colic generally increased by bleeding and purging.

21. But it must be observed that sometimes there is such a fulness of blood and juices, as resists the operation of opiates so powerfully, that how often soever they be repeated, they avail not to quiet the disturbance, unless bleeding or purging precede: I have remark'd this in women of a very sanguin constitution, and robust make. This being the case, one or other of these remedies, and perhaps both, must be previously used, in order to make way for the opiate, another dose whereof will then pro-

Yet sometimes they are necessary, and where.

Sect. 4.  duce the effect for which it is given; whereas before bleeding or purging the largest avails not. But this is an uncommon case, and these remedies are not then to be repeated. These particulars being premis'd, where there is a demand for opiates, we are to proceed in administering them according to the method specified in treating of the *bilious colic*: they are to be repeated, in point of frequency, in proportion to the abatement of the pain. This method indeed is only adapted to relieve the present symptom of violent pain; for I have not undertaken to treat of that, in this place, which removes the cause of the disease.

*It often
ends in a
jaundice.*

22. But as this distemper, both in hypochondriac and hysteric subjects, (for the reason is the same in both, as we shall shew in another place) often terminates in a *jaundice*, which increases proportionally as the original disorder goes off, it must be remark'd that in curing this species of the jaundice all purgatives are either wholly to be refrained, or none exhibited except *rhubarb*, or some other gentle lenitive; for 'tis to be apprehended that a new commotion may be occasion'd by purging, and consequently a return of the symptoms. In this case therefore 'tis more expedient to give no medicines at all, as the jaundice arising from this cause abates by degrees spontaneously, and totally vanishes in a short time. But if it continues long, and seems to go off slowly, we must have recourse to medicines. I direct the following.

*The cure of
it.*

*An aperient
apozem.*

Take of the roots of madder and turmeric, each an ounce; the roots together with the leaves of the greater celandine, and the tops of the lesser centaury, each an handful; boil them in equal quantities of Rhenish wine, and spring water, to a quart; to which, when strain'd off, add two ounces of the syrup of the five opening roots: mix them together for an apozem, of which let the patient take half a pint warm, every morning and night, till the cure be compleated (h).

23. But

(h) This apozem might as well be prepar'd with water only, since long boiling will totally exhale the spirit of the *rhenish* wine and leave it nothing better than meer water.

The following is much better contriv'd, and more likely to answer the end propos'd.

Take of the roots, together with the leaves of the greater celandine,

23. But where the jaundice is the original disorder, besides the alteratives just set down, it is convenient to exhibit such medicines once or twice, as evacuate the bile by stool, before taking the apozem above prescribed, and once a week afterwards, whilst it is continued (i).

The cure of
an original
jaundice.

Take

dine, the roots of turmeric, and madder, of each an ounce; spring water, three pints: boil them together till there remains a quart of the strain'd liquor; to which, when cold, add the juice of two hundred millepedes; and two ounces of the syrup of the five opening roots; and mix them together.

A decoction so well adapted, Dr Shaw observes, cannot but be of great service in the cure of the jaundice, when used freely by the patient as ordinary drink. See the *Edinburg dispensatory*, translated by Dr Shaw, p. 101.

(i) The cure of the jaundice here is very superficially delivered by our author; no mention being made of the *volatile*, *saponaceous*, *attenuant*, *deterfive*, and *chalybeate* kinds of medicines, which, if judiciously suited to the case, will often prove effectual where this simple method must needs fail.

To supply in some measure its apparent defects, we shall subjoin in a summary manner the general method of curing the several species of this disease, taken chiefly from Dr Huxham's treatise *de aere et morb. epid.* &c. p. 143, &c.

It is never without danger, when accompanied with an hæmorrhage; for this denotes the blood to be very acrimonious and thin; in which case *attenuants*, *aloetics*, *volatiles*, and *chalybeates* are highly detrimental; on the contrary *acids*, *diluents*, *smoothers*, *mineral waters*, and the like, are eminently beneficial. If it be attended with a fever, and quick pulse, a decoction of hempseed in milk, or an emulsion made with sweet almonds and white poppy seed, often does great service, after moderate bleeding, and proper purging.

There is also another, and a very different species of the jaundice, which proceeds from a sluggish and viscid bile, and accordingly requires a quite different method of cure. Here the blood being clammy and thick generates a very tenacious and vapid bile, which at length obstructs the bilious vessels, so that the obstruction of the liver is rather an effect than the cause of the disease. In this case *emetics* are first requir'd, and then *aloetic* and *mercurial* purgatives; and afterwards *attenuants*, *saponaceous*, *tartarous*, and *volatile* medicines are necessary. But care must be had not to give *chalybs* too soon, namely before having thinn'd the juices, otherwise instead of relieving the disorder, an incurable *schirrhus* of the liver may perhaps be occasioned. And here I cannot forbear extolling *regenerated tartar*, or the *terra foliata tartari*, as it is call'd, as an admirable *dissolvent* or *attenuant*, not only in this, but likewise in several other distempers; for it powerfully dissolves gross and fiv' humours, and opens obstructions of the vessels; and tho' it possesses such excellent virtues, it has scarce any acrimony, and, what perhaps will seem surprizing, it may be given as safely in pleuritic and dropical disorders. In reality such medicines, as are able by their weight and subtilty to divide

Sect. 4.

*A purging
bolus.*

*Take of the electuary of the juice of roses, two drams;
rhubarb finely pulveriz'd, half a dram; cream of tar-
tar, a scruple; syrup of succory with rhubarb, enough
to make them into a bolus, to be taken betimes in the
morning, drinking after it a glass of Rhenish wine.*

*If it proves
obstinate a
course of
mineral
waters must
be used.*

But if, notwithstanding the long continuance of these medicines, the disease still remain obstinate, the patient should go to some place where there is a chalybeate mineral spring, for instance *Tunbridge*, and drink the water every morning at the well-head till he recovers (*k*). ---And let this suffice for the diseases of this constitution.

divide thick and viscid humours, are of very considerable use; but their efficacy may be much improved by an admixture of some deterfivè soap, which dissolves and thins all unctuous and tenacious humours.

It must be remembered that *steel* and *heating medicines* prove extremely prejudicial, if the distemper be inflammatory; and that *emetics* are improper, if it arises from calculous concretions in the gall-bladder, which may be conjectur'd to be the case, if it returns frequently.

(*k*) Our author in advising a course of mineral waters, which is indeed of great efficacy in a stubborn jaundice, hath taken no notice of the proper season for drinking them, which is the beginning of summer: neither hath he inculcated that they may be drunk with advantage at a distance from the well-head, when the patient cannot conveniently go to the spring. As to the method of drinking any mineral water, it cannot well be particularized, because it requires to be suited to the nature of particular distempers, constitutions and ways of living; all which are very different in particulars. Besides, in some cases proper correctives are to be used along with them, and medicines interposed during the course; and in all a due regimen, as to diet, exercise, &c. must be strictly observed, in order to receive the full benefit of the waters without hazard, or danger: all which plainly shews how difficult, and perhaps impossible, it is to deliver a set of rules that shall be applicable to such an exceeding diversity of circumstances.

S E C T. V. C H A P. I.

Of the epidemic Constitution of part of the Year 1673, and of the Years 1674, 1675.

I. ABOUT the beginning of *July* in 1673 there arose another kind of fever, which did not prove very epidemic; because the constitution was not yet so entirely dispos'd to favour it, as wholly to exclude the diseases of the preceding constitution. For that sort of small-pox which began in 1670 was not yet extinct, tho' it appeared less frequently, and the symptoms were milder; so that these two diseases prevail'd almost equally, but neither very severely, the former constitution being not so totally gone off, as to leave none of the diseases belonging thereto (for the dysentery continued to attack a few) and the then reigning constitution not being so perfectly establish'd as to produce such as might exterminate all other distempers.

*The rise of
a new kind
of fever,*

2. The small-pox and this fever continued equally prevalent during this autumn and the following winter, but neither of them rag'd with great violence; and the dysentery was in a manner extinct. But in *November* following, a sharp frost of some days being unexpectedly succeeded by warmer weather than I ever remember to have observed at this season, some few persons were seized with the dysentery a little before and about *Christmas*; but it seem'd then to be going off, and in a short time after this species of it at least quite vanish'd.

3. The next year the measles appeared very early, namely in *January*, and proved as epidemic, as that kind which broke out about the same time in 1670. For it suffered few families to escape, and attack'd children especially; but it was not so regular in its stages, as that which prevailed in the abovementioned year. But I shall say more of the difference between them, when I come to treat of this kind more particularly. It increased every day more and more, till the

*When the
measles be-
gan in this
constitution.*

Sect. 5. the *vernal* equinox, after which it abated proportionally, and at length went off soon after the *Summer* solstice.

4. As the epidemic measles of 1670 introduced the *black small-pox* above described, so the present species, which appeared in the beginning of the current year 1673 being equally epidemic, was accompanied with a similar kind of small-pox. For whereas the small-pox of the preceding constitution, as hath been already observed, after the first two years, gradually abated of their blackness, and also increased proportionally in size, till towards the end of the year 1673, when, considering the kind, it was mild and favourable, it now returned with its former violence, and attended with very dangerous symptoms. This kind of small-pox prevailed during the following autumn, and continued longer than usual in winter, which, on account of its uncommon warmth, favoured this disease; but when colder weather came in, it abated, and soon gave place to the present epidemic fever.

The small-pox returns.

The fever assumes a different shape.

5. This fever, which had continued the whole year, made great devastation in the beginning of *July* 1675, but at the approach of *autumn* it began to strike in upon the bowels, appearing sometimes with the symptoms of a dysentery, and at others with those of a diarrhoea; tho' sometimes it was free from both, and rather seiz'd the head, and caused a kind of *stupor*. In the mean while the small-pox, which attack'd only a few subjects here and there, disappeared entirely towards the *autumnal* equinox: and now the fever, having overcome the other epidemics, became the capital disease of the year. It must however be observed, that as this fever was much disposed to throw off the morbid matter upon the bowels, which sometimes occasioned a dysentery, but more frequently a diarrhoea; so upon this account the gripes were generally supposed to have destroyed the numbers that died at this time, whereas in reality their death was rather to be ascrib'd to the fever, for such as attended the sick during this *autumn* knew how much the fever prevailed; so that both the dysentery and the diarrhoea ought rather to be accounted *symptoms*, than *essential* and *original* diseases.

Undergoes another change.

6. This fever proceeded in this manner during the *autumn*, sometimes seizing the head, at others the bowels, every where raging under the appearance of symptoms

ptoms peculiar to those parts, till the end of *October*; when the weather, which till now had continued in a manner as warm as summer, chang'd suddenly to cold and moist (*a*), whence catarrhs and coughs became more frequent than I remember to have known them in any other season. But it is of most moment to observe, that the stationary fever of this constitution usually succeeded upon these coughs, and hence became more epidemic, and likewise varied some of its symptoms. For whereas some little time before, as abovementioned, it attacked the head and bowels, now it chiefly seiz'd the lungs and *pleura*, whence arose peripneumonic and pleuritic symptoms; tho' it was still precisely the same fever that began in *July* 1673, and continued without any alteration of its symptoms till the rise of these catarrhs.

7. These catarrhs and coughs continued to the end of *November*, after which time they suddenly abated. But the fever still remained the same as it was before the catarrhs appeared; tho' it was neither quite so epidemic, nor accompanied with the same symptoms; both these depending accidentally upon the catarrhs. Moreover upon their going off a small-pox, manifestly of the same kind with that of the preceding year, began to attack a few persons here and there; but as they had now almost compleated their second year, the symptoms were less violent than in the beginning.

Yet still remains essentially the same.

I am not able to conjecture how long this constitution will prevail, but this I certainly know, that it has hitherto been very *anomalous* and irregular, as have likewise all the diseases occasioned thereby. I proceed now to treat of the epidemics of this constitution in the order wherein they succeeded each other.

C H A P.

(*a*) A cold and moist air, continuing for a time, or suddenly succeeding a dry and warm state thereof, is extremely prejudicial to the body; for it relaxes the solids, whence of course the fluids circulate with less velocity, and have their intestine motion diminished, so that they become thick and tenacious, and consequently cannot be protruded to the extremely fine perspiratory vessels, so as to have their superfluous and noxious parts exhaled, which is also prevented in great measure by the stoppage of the pores from the same cause. Hence abundance of impurities are collected in the body, and the juices likewise lose their soft, balsamic nature, and become acrimonious and irritating, so that if they are not seasonably discharged by some other evacuation, spontaneously arising, or procured by art, *swellings of the throat, coughs, quinseys, catarrhal fevers, &c.* are generated thereby.



Of the continued Fever of the Years 1673;
1674; 1675.

*This fever
most in-
flammatory
in the be-
ginning.*

I. **T**HIS fever, like other epidemics, was attended with such symptoms soon after its rise, as clearly shewed that the inflammation was then more violent and spirituous, than in its progress (a). For the first year of its appearance, and the following spring, pleuritic symptoms succeeded upon the fever, and the blood that was taken away resembled that of pleuritics, at least for the first and second time, but in the course of the disease these signs of an extraordinary inflammation disappeared.

*Its distin-
guishing
symptoms.*

2. Besides the symptoms which all fevers have in common, this fever had the following. (1) A violent pain in the head and back, (2) a *stupor*, (3) and ten- sive pain of the limbs, joints, and whole body, but somewhat milder than in a rheumatism: (4) heat and cold succeeded alternately in the infancy of the disease, (5) and sometimes also a great tendency to sweat accompanied it; (6) when the fever was suffered to proceed according to its own nature, the tongue was not dry, and but little altered in its natural colour, only it was whiter; (7) the thirst was inconsiderable: (8) but when the heat was increased beyond the degree common to this fever, the tongue appeared extremely dry, and of a deep yellow colour, the thirst also was increased, and the urine became intensely red, which otherwise used to retain almost its natural colour. When this fever was accompanied only with these symptoms, it went off on the *fourteenth* day, if skilfully treated; but when it proved very inveterate, it continued till the *one and twentieth* day.

3. Amongst

(a) 'Tis not at all improbable that the contents of the air, productive of an epidemic disease, are possess'd of a much greater degree, both of virulency and activity, when they first begin to communicate their morbid impressions, than some time afterwards; and hence the disease occasioned thereby may be considerably more inflammatory and universal at the beginning, than in the progress and declension thereof.

3. Amongst the symptoms attending this fever the principal one was a kind of *coma*, which rendered the patient stupid and delirious, so that he would doze sometimes for several weeks, and could not be awakened without loud noises, and then he only opened his eyes, and directly after taking either a medicine, or a draught of some liquid he was us'd to, fell into a sleep again, which sometimes prov'd so profound, as to end in an entire loss of speech.

Chap. 2.

The principal one a kind of coma.

4. When this symptom vanish'd, the patient grew better on the *twenty eighth*, or the *thirtieth* day, the first sign whereof was the desiring or longing for some odd and uncommon kind of liquid or solid aliment. But the head continued weak for some days, and nodded sometimes on this and sometimes on that side; and there were other signs, which manifested it to have been greatly disordered: but in proportion as the strength returned, this symptom went off.

The first sign of recovery.

5. Sometimes the patient did not sleep, but was rather silently delirious, tho' at times he talked wildly as if in a passion; but the fury never rose to so great a height, as is common in a phrenzy in the small-pox and other fevers; from which it also differed in this particular, that he slept confusedly at intervals, and likewise snored more soundly. Neither was this symptom so acute as a phrenzy, but it continued longer, and chiefly affected children and youths, whereas that chiefly attacks grown persons. But in both, if heating medicines were given, and sweating promoted, the disease soon flew up to the head, and occasioned this symptom.

Sometimes a silent delirium happened.

6. But where this symptom neither came spontaneously, nor was forced by medicine, the disease generally ended in *fourteen*, and sometimes in *three* or *four* days, as I have occasionally observed.

7. In *Autumn*, 1675, as we intimated above, this fever endeavour'd to go off by a dysentery, and sometimes by a looseness; but the latter especially happened very frequently, whilst the *stupor* still continued: however, as far as I could learn from diligent observation, both these were only symptoms of this fever.

8. To proceed to the cure: when this fever arose, viz. in *July* 1673, I immediately perceived it was of quite another kind, both from the various signs wherein it differed from those which accompanied the fevers

This fever of a peculiar kind.

of

Sect. 5.

of the preceding constitution, and from its not yielding to purging, by which I successfully cured all those fevers. Upon this account I employed more time than ordinary in searching into its species, and was consequently under much perplexity in what manner to proceed in the cure. For when this fever first appeared, it had no epidemic cotemporary therewith, whose genius being thoroughly known might enable me to discover somewhat of the nature of this; for the small-pox, which accompanied it, as I have before said, seem'd to be the remains of the black small-pox of 1670, and was now become very mild, and nearly extinct. I had no other way left, therefore, but to enquire carefully into this disease as it stood alone, and to use my best endeavours to find out a suitable method of cure, by always attending diligently to the *juvantia* & *lædientia*. i. e. to what made the patient better or worse.

Attended
with great
inflammation.

9. The violent pain in the head, and the tendency there was to a pain in the side, together with the resemblance of the blood to that of pleuritics, soon shewed that this fever was accompanied with a considerable inflammation, notwithstanding which it would not admit of such large evacuations as are proper in a pleurisy; for after the first or second bleeding the blood entirely lost its fizy surface, and repeated bleeding did not at all relieve, unless perhaps the disease changed to a true pleurisy, which sometimes happened by using a hot regimen, especially during the first spring wherein it attacked, namely in 1664, at which time being promoted by the approach of the sun, it seem'd to tend to a kind of peripneumony, the disease being then in its infancy, and more spirituous than afterwards. Being deterred from repeated bleeding, by the ill success which attended it in many instances, notwithstanding this fever manifestly appeared to be of a very inflammatory nature, especially at its first coming, I had no other means left to mitigate the heat thereof, except the frequent repetition of glysters, and the use of cooling medicines. Besides the symptoms that so apparently discovered an inflammation, the *stupor*, which happened oftner in this than in any other fever, indicated the frequent injection of glysters, in order to make a revulsion of the febrile matter from the head, which it was very apt to attack in this distemper; and they were substituted instead of repeated

Repeated
bleeding
bad.

Glysters,

repeated bleeding, which it could not conveniently bear, and supplied the want thereof by gradually and gently cooling the blood, and expelling the morbid cause. Chap. 2.

10. Moreover I judg'd that large blister-plaisters applied between the shoulders must needs do more service in this than in other fevers, where the febrile matter does not equally affect the head; for by the violent heat and pain, they usually occasion in the part whereon they are laid, the matter, which would otherwise flie up to the head, is deriv'd thereto. By the use of these remedies, along with a cooling regimen, the disease at length yielded, as it were, naturally and spontaneously, how severely soever it rag'd, when treated by a different method; as plainly appeared to me from numerous instances. *And blistering serviceable.*

11. I proceeded therefore in the following manner: I first took away such a quantity of blood from the arm, as the strength, age, and other circumstances required, and then applied a large epispastic to the neck. The next day I ordered a laxative glyster to be thrown up early in the afternoon, viz. about two or three o'clock, that the disturbance thereby occasioned might be quieted before the evening, and it was repeated every day till the disease abated, when I judg'd that glysters were to be omitted, and even sooner, if the fever continued after the 14th day; having found that they availed not at this time, even tho' the fever had not been conquered by those which had already been injected. For the violence of the disease, and the symptoms thereon depending, being now abated by the preceding ebullition, and the danger over, I judg'd it best to leave the disease to itself, to go off by degrees spontaneously. And this method always succeeded better with me, than the attempting some considerable evacuation at this time. In the mean while I forbade the use of flesh, but allowed small-beer to be drank at pleasure. *The method of cure particularized.*

12. In treating of the regimen of this distemper I must not omit to observe here, that the patient should sit up at least some hours every day, much experience having shewn that this is of singular service. But if it be contraindicated by great weakness, the patient should however put on his cloaths, and lie down on the bed with his head raised high. For having considered how *The patient should rise every day, and why.*

Sect. 5. violently the fever was carried up to the head, and also the inflammatory state of the blood, I conceived he might find some relief by placing the body in such a posture, as might prevent all increase of heat from the bed-clothes (which cannot be avoided if he lies constantly in bed) and check the course of the blood to the head, which increases the heat of the brain, and consequently heats and agitates the animal spirits, whence the heart beats quicker, and the fever is augmented.

*But not sit
up too long.*

13. But how serviceable soever it be in all fevers, attended with great inflammation, not to confine the patient continually in bed; yet it must be observed, that the sitting up too long at a time, particularly in the declension of the disease, disposes to flying pains, that may end in a rheumatism; and sometimes a jaundice is hereby occasioned. In these cases lying in bed is necessary, which opens the pores, so that the particles occasioning either of these disorders may be conveniently carried off thereby. But the patient is to be kept only a day, or two, in bed, without exciting sweat. These accidents however happen rarely, and never but in the decline of the fever, when the disease being abated, it is much safer to let the patient lie constantly in bed, than in the beginning or height thereof; for at this time it forwards the digestion of the febrile matter, which is more exasperated and inflam'd by an earlier confinement in bed.

*The method
of cure vin-
dicated.*

14. But if it should be objected here, that this method, tho' it be proper enough to divert the course of the blood from the head, and cool the patient, is nevertheless disserviceable, because it checks the evacuation by sweat, whereby the febrile matter, now concocted, should be wholly expell'd; I reply, that the objection is of no force, unless arguments be first produc'd to demonstrate that this kind of evacuation is necessary in every fever, which will be difficult to do. For experience, not reason, points out which species of fevers is to be cured by sweat, and which by purging, &c. Moreover 'tis no improbable supposition that there are certain species of fevers, which nature cures by a peculiar method of her own, without any visible evacuation, viz. by assimilating the morbid matter to the blood. And upon this foundation I have often cured this and other species of fevers (provided they were not intermittent) in the beginning, before the whole mass of blood was vitiated, only by directing

recting small-beer to be drank at pleasure, forbidding Chap. 2.
broths, and every other kind of aliment, allowing the patient the use of his ordinary exercise, and the open air, and refraining wholly from evacuations. Thus I have cured my children and intimate friends, by making them fast strictly for two or three days; but this method is only to be used in young persons, and such as are of a sanguine constitution.

15. But if it should be granted, that nature can conquer the disease no otherwise than by sweat, ought it not to be understood of the sweat that appears in the decline of the disease, in consequence of the previous digestion of the peccant matter, and not of that which is forced in the beginning, and proceeds from nature's being disturbed in her method of procedure? I conceive that such a sweat is not to be promoted, but contrariwise that the disturbance whence it proceeds is rather to be quieted. This kind of sweat usually accompanies most, tho' not every, species of fevers. 'But I am well aware that some kinds of fevers naturally require the critical sweat at their declension. Such are the particular fits of intermittents, and likewise the great and most frequent fever of nature, arising from that constitution which eminently tends to produce intermittents epidemically. For if any method be followed which does not tend, (1) to digest the morbid matter, and (2) to expel it by sweat, the disease will be augmented thereby: so that no evacuations must be used here, unless inasmuch as they moderate the violence of the disease in the beginning, and so prevent the death of the patient during the course of the cure. Moreover the cause of a pestilential fever, as it is of a fine and subtil nature, may be carried off by sweat on the first days of the illness, as experience universally shews.

What kind of sweat is to be promoted in fevers.

16. But in those fevers, wherein we never find, by the common course of the symptoms, and when the distemper is suffered to proceed according to its own genius, that nature is used to discharge the morbid matter, now prepared, in a limited time, it would probably be very imprudent to endeavour the cure only by promoting sweat, since, as *Hippocrates* observes, one must not oppose the tendency of nature. And I conceive this ought to take place in the fever under consideration, which frequent experience hath taught me may be cured

In what fevers sweating is prejudicial.

Sect. 5. red without a sweat, and likewise that, whilst we endeavour to force it unseasonably, we often unnecessarily hazard the patient's life by translating the morbid matter to the head. But however no prudent physician will reckon it a trifling advantage, either in this or any other fever, not excepting such as are not usually terminated by a *critical* sweat, if such a kind of sweat should by accident succeed spontaneously upon the abatement of the disease, since by the remission of all the symptoms this sweat may be esteem'd to proceed from a due concoction of the febrile matter. But when it does not appear spontaneously, what assurance have we that the patient will not be destroy'd, whilst we endeavour by a hot regimen, and heating cardials, to dispose the humours to be expelled by sweat? Should a person by chance find something of value in his way, he would doubtless stoop to take it up, unless he were a fool; but he must needs deserve that character, who, having had this good fortune, should use his utmost endeavours to obtain such another prize with the hazard of his life. Be this as it will, 'tis apparent to me, that the fever alone is attended with a sufficient degree of heat to prepare the febrile matter for concoction, and needs no additional heat from without, by means of a hot regimen in order thereto.

Bleeding and glysters successful, but diaphoretics bad in this fever.

17. I have found the abovementioned method of bleeding, and injecting glysters, very successful in the cure of this fever; whereas contrariwise sudorifics not only occasioned anomalous symptoms of a bad kind, but likewise render'd the cure uncertain. The capital symptom in this fever was the silent *delirium*, which did not manifest itself so much by talking wildly, as by a *stupor* resembling a *coma*, which, as we said above, often happen'd in this fever. I have sometimes known it come spontaneously, but 'tis generally occasioned by the ill-timed officiousness of the nurse in raising sweat, whereby the morbid matter (which in this kind of fever does not admit of expulsion by sweat) is put into a violent motion, and at length flies up to the head, to the endangering the patient.

18. I have already remark'd, in treating of the cure of the fever of another constitution, that in the latter years of its prevalence a *stupor* of this nature chiefly affected children, and such as were under fourteen years of age;

age; but that was neither so considerable, nor so epidemic, as the *stupor* which accompanied the present fever. Yet I could not conquer the first, and much less the last, in the beginning of the fever, tho' I used all possible endeavours by repeated bleeding both in the arms, neck and feet, applying epispastics, cupping, glysters, sudorifics of all kinds, and the like. So that at length I determined, after bleeding in the arm, to apply a vesicatory to the neck, and throw up two or three glysters of milk and sugar in the infancy of the disease, without doing any thing more than forbidding the use of flesh and spirituous liquors: in the mean time I attended closely to the procedure of nature, hoping that by following her steps I should at length learn how to conquer this symptom, when I found that the disease went off safely, tho' slowly, without using more means. Upon this account I judged it necessary to pursue this method in all the fevers I have since treated; and look upon it as a thing of great importance, if the greatness of the symptom, and the constant success attending it, be considered.

The Stupor yielded to nothing in the beginning.

19. And in reality I have sometimes thought that we do not proceed slowly enough, and ought to use less expedition in removing distempers, and that more is frequently to be left to nature than is usual in the present practice. For 'tis a grand mistake to conclude that nature always wants the assistance of art; for if that were the case, she would have made less provision for the safety of mankind than the preservation of the species demands; there being not the least proportion between the multitude of diseases and the knowledge men were endowed with to remove them, even in those ages wherein the healing art was at the greatest pitch, and most cultivated. What may be effected in other diseases I am not able to say; but I am convinced, from diligent observation, that in the fever under consideration this symptom, after using the general evacuations, *viz.* bleeding and glysters, was successfully conquered by time alone.

Haste in curing diseases sometimes pernicious.

20. It has been already observed that the signs of recovery did not usually appear till the *thirteenth* day, when the *stupor* was considerable, and attended with a loss of speech; and then the patient earnestly longed for some odd kind of liquid or solid aliment, the ferment of the stomach being greatly depraved by the long continuance of the fever. Now in this case, tho' he was so

Improper diet when to be indulged.

Sect. 5.

History of a
cure.

Sometimes a
delirium
with
watchful-
ness, &c.
happened in
this fever.

Spirit of
vitriol most
effectual in
removing
these sym-
ptoms.

weak as to stand in need of a restorative diet, yet I willingly allowed such things as were less proper, provided they were more grateful to the palate.

21. In *September*, 1674, I attended the son of Mr. Not, bookfeller, a youth of nine years of age, who was afflicted with this fever, accompanied with the above-mentioned symptom. After bleeding in the arm, and injecting glysters every day in the beginning of the illness, the mother importuned me to hasten the cure more than I judg'd consistent with the safety of her child, and therefore refused to comply with her request. Having accordingly gained time, I directed only a common julap; which I did rather to please the mother than to relieve the son, who about the *thirteenth* day began to amend, when he earnestly desir'd several odd kinds of eatables, a part whereof was indulged him upon this account, tho' they ought not otherwise to have been allowed; and by this means he at length recovered.

22. But tho' this comatous *stupor* more frequently accompanied this fever than the other symptoms, yet sometimes, tho' rarely, a *delirium* happened without a *stupor*, in which the patient slept not night or day, and was ungovernable, and was seiz'd with other symptoms, resembling those which affect delirious persons either in the small pox, or in other fevers. This symptom would not admit of palliation, like the *coma* just mentioned, till concoction could be performed, but proved fatal in a short time, unless the inflammation was abated. In this case *spirit of vitriol* prov'd more serviceable than any other remedy, so that, after bleeding, and injecting one or two glysters, I allowed it to be dropt into small-beer for common drink: and in a few days it disposed the patient to sleep, and having removed the symptoms, restor'd him to health, which indeed I was not able to effect by any other method. And this was manifest to me by much experience.

23. In *Autumn*, 1675, dysenteric stools, and sometimes a looseness succeeded this fever, which I presently perceived were *symptomatic*, and not *original* disorders, as in the preceding constitution. But notwithstanding, as the cause of the disease was contained in the mass of blood, bleeding was indicated, which, with the assistance of two doses of an opiate afterwards, prov'd sufficient to overcome this symptom.

24. In

24. In September, 1675, I was called to lady Coningsby, Chap. 2. who was seiz'd with this fever, which was suddenly followed with gripings, and these by bloody and mucous ejections. Tho' her strength was much exhausted by the long continuance of the disease, and especially by the frequent stools which had greatly fatigued her the preceding night, I directed bleeding in the arm immediately, and soon after gave an opiate, after which there appeared natural stools the same evening. I repeated the opiate the following morning and evening, and ordered a gentle cardiac to raise the spirits; and by this procedure she soon recovered.

The dysentery succeeding this fever how conquered.

25. As to the *diarrhoea*, which frequently happened in this fever, about this time of the year, it occasioned little inconvenience; and as it neither prov'd serviceable, nor prejudicial, as far as I could perceive, whether there was a *stupor*, or not, so it furnished me with no indication, provided it was not so violent as to endanger the life of the patient, in which case an opiate was clearly indicated; and in this only the use of anodynes is to be approved throughout the course of this disease, for the extraordinary tendency to a *stupor* in this fever was increased by medicines of this kind, and consequently they were not to be given without an absolute necessity.

The looseness succeeding it how cured.


26. It must be observed that it often happens that persons recovering after this and other fevers, especially such as have been much exhausted by the long continuance thereof, and have required large and tedious evacuations to compleat their cure (particularly if they be also of a weak constitution) do, as they lie in bed at night, first grow hot, and then fall into a profuse sweat, whereby they are greatly debilitated, and recover strength slowly; and some likewise fall into a consumption. As I conceived that this symptom only arose from the blood's having been so impoverish'd and weaken'd by the inveteracy of the preceding illness, as not to be able to assimilate the juices lately taken in, but to endeavour to expel them by sweat; I ordered that the patient should take five or six spoonfuls of *malaga sack*, morning and evening, whereby the strength increased daily, and the sweats vanished (b).---And thus we have finish'd

Night-sweats whence, and how cured.

N 4

our

(b) A restorative diet, proper exercise, and the use of a light infusion of the bark in red wine will seldom fail of producing the desired effect in this case. Elixir of Vitriol is also esteem'd an excellent medicine for the same purpose.

Sect. 5.  our discourse of the continued fever of this constitution, which we chuse to call the *comatous fever*, on account of the great *stupor* which generally accomanied it.

C H A P. III.

Of the Measles of 1674.

The rise of a
new species
of the
measles.

I. IN January, 1674, there arose a different species of the *measles* from that which began in the same month, in 1670, and yet it prov'd as epidemic, but was not equally regular, nor so constantly kept its train of symptoms: for sometimes the eruptions came out earlier, and sometimes later, whereas in the other kind they always appeared on the *fourth* day inclusive from the beginning of the illness. Again, the eruptions here appeared first on the shoulders, and other parts of the trunk; but in the other species they first shew'd themselves in the face, and by degrees spread over the rest of the body. In this species likewise I rarely found that the skin peeled off like branny scales upon the disappearance of the eruptions, which happened as certainly in the other kind as after a scarlet fever. Moreover this sort prov'd more destructive, when unskilfully treated, than the former: for the *fever* and *difficulty of breathing*, which us'd to succeed at the close of the distemper, were more violent here, and resembled a *peripneumony* more. But tho' this species of the measles was anomalous and irregular, with respect to the symptoms just mentioned, it nevertheless answer'd in general to the description of that of 1670; which need not therefore be repeated here. This kind also, like the former, increased 'till the *vernal* equinox, from which time it abated, and at length vanish'd, at the approach of, or soon after, the *summer* solstice.

The method
of cure
whence to
be taken.

2. As the method of cure differs little from that which is amply delivered above in the history of the measles, it is thence to be taken; and I will only give a single instance hereof in this place, according to my custom.

Exemplified
in some
children.

3. In February, 1674, the countess of *Salisbury* sent for me to attend one of her children in the measles, which the rest, to the number of five or six, afterwards catch'd,

catch'd, and I treated them all in the same manner. I ordered they should lie in bed for two or three days before the eruption, that the blood might breathe out thro' the pores the particles occasioning the distemper, which were easily separable from it. But I indulged no more clothes, nor a larger fire, than they were accustomed to when in health. I forbid the use of flesh, and permitted them to sup water-gruel, and barley-broth, and between whites to eat a roasted apple, and I gave them small-beer, or milk boiled with thrice its quantity of water, for drink. I also prescribed a pectoral ptisan, to be drank occasionally, as the cough prov'd troublesome. By this means they recovered in the short time wherein this disease ordinarily finishes its course, neither were they seiz'd with any uncommon symptom throughout the course, or after the departure thereof.

4. During the first two months, in which this species of the measles prevailed, a kind of *morbillous fever* attack'd a few subjects, attended with some eruptions in the body, but especially in the neck and shoulders, resembling the measles, from which they only differed in being confin'd to the parts abovemention'd, and not seizing the whole body. The fever also, tho' apparently of the same kind, was more violent, and lasted *fourteen* days, and sometimes longer. It admitted neither bleeding nor glysters, being exasperated by both; but it readily yielded to the method adapted above to the measles.---And let this suffice for the measles.

The origin of a morbillous fever.


Bleeding and glysters bad therein.

C H A P. IV.

Of the anomalous Small-pox of 1674, 1675.

1. **A**S the *epidemic measles*, which appeared in the beginning of the year 1670, introduced the *black small-pox* there described; so that kind which arose in the beginning of 1674, and prov'd equally epidemic, introduced a species of the small-pox, so very like the former, that it seem'd to be the same revived, and not a new kind. For as we have before observed of that species of small-pox, that after the first two years of its prevalence the pustules became daily less black, and grew

The return of the black small-pox.

Sect. 5.  grew larger by degrees, till the end of the year 1673, when the disease was mild and gentle, considering the kind, it now returned with its former violence, and attended with a train of destructive symptoms. For in the *flux kind* the pustules appear'd of a sooty blackness, unless the disease prov'd fatal before they came to suppuration; for whilst they ripened, they were only of a brown colour. Moreover, when the pustules were numerous, they were very small, (for where very few appeared, they were of the same size as in other kinds of the small-pox, and very rarely black) and nearly resembled that kind above described which prevailed in 1670, differing only in a few particulars, which shewed that this sort was attended with a greater degree of putrefaction, and of a grosser and more indigestible nature: for when the eruptions came to maturity, they were much more fetid than in the other kind, insomuch that I could scarce bear to approach such as were very full, the stench was so offensive. They also ran thro' their stages slower than any other species I had hitherto seen.

*The milder
the kind,
the sooner
the pustules
suppurate.*

2. 'Tis worth observing, that the milder the kind is, the sooner the eruptions come to suppuration, and the disease is terminated. Thus, in the regular species of the *confluent small-pox*, that began in 1667, the *eleventh* day was attended with most danger, after which the danger was generally over. In the next succeeding irregular species of the *confluent small-pox*, which arose in the beginning of 1670, the *fourteenth*, or, at longest, the *seventeenth* day proved most fatal, which if the patient survived, he was in no further danger; having never known a person destroyed by this disease after the *seventeenth* day. But in this species of the *confluent small-pox* there was danger after the *twentieth* day; and sometimes if the patient recovered, which happened to few, the ankles not only swelled, which is common in every species of the *confluent small-pox*, but the shoulders, legs and other parts; and these swellings begun with intolerable pain, like a rheumatism, and frequently came to suppuration, and terminated in very large sinus's and imposthumes in the muscular parts; so that the patient's life was greatly endangered for several days after the small-pox was gone off. Hence I clearly perceived by what degrees this epidemic distemper advanced thro' these three constitutions, the latter
whereof

whereof always exceeded the former, both in the degree of putrefaction, and the indigestible state of the mor-
bific matter. Chap.4.

3. But the *small-pox*, whereof I now treat, seems to me to be a new species arising from the former, now in their decline. For tho', according to the tendency of the air productive of this epidemic, the *black small-pox*, which first appeared in 1670, had arrived at its declension, yet, like a relapse of some disease caused by the fresh fermenting of the former matter, the air, being again disposed to produce the *small-pox*, brought it back; and the disease being renewed, and having obtained fresh force, seemed clearly to revive, and appear again in its juvenile state. And this kind prov'd so much more irregular, and was accompanied with greater putrefaction, in proportion as the matter occasioning it was grosser and fouler than that which produced the preceding kind. In order to render this still more apparent, it must be considered, that the temperature of the air cannot usually be such as to propagate a particular epidemic in one place, and a very different one in another not far distant from the former; for if this were the case, as it sometimes is, every motion of the winds would have a power of spreading the constitution. But I conceive it more probable, that a certain particular tract of air becomes replete with *effluvia* from some mineral fermentation, which infecting the air thro' which they pass, with such particles as prove destructive sometimes to one species of animals, and sometimes to another, continue to propagate the diseases resulting from the various dispositions of the earth, till the subterraneous supplies of those *effluvia* fail; which may likewise undergo a new fermentation from the remains of the old matter, as in the case just mentioned.

This small-pox seems to be a new kind.

4. But whether this or any other hypothesis may better serve to solve the phenomena, is equal to me, who pretend to nothing more than is clear from the fact itself. This however I certainly know, that the present *small-pox* exactly resembled that of the preceding constitution; only it seem'd to be of a grosser nature, and attended with a much greater degree of putrefaction. And from these two causes it followed, that when the eruptions were very confluent, it destroyed abundance more than any other species I had hitherto seen; and, in
my

Was of a grosser and more putrefactive nature.

Sect. 5. my opinion, was as fatal as the plague itself, with respect to the numbers affected thereby: but the distinct kind was not more dangerous than any other species, and by the size of the pustules, their colour, and other particulars, clearly manifested itself to be of a good sort.

*Intimated
contrary cu-
rative indi-
cations.*

*The method
of cure spe-
cified.*

5. With respect to the cure, I have long wondered to find such manifestly contrary indications, as this disease seem'd to intimate. For it was apparent, that a hot regimen immediately caus'd such symptoms as proceed from a too violent inflammation; viz. a *delirium*, purple spots, and the like, whereto this disease is chiefly subject. And contrariwise too cool a regimen prevented the swelling of the face and hands, which is highly necessary here, and sunk the eruptions. But after a long and thorough consideration of these matters, I at length found that I could remedy both these inconveniencies at the same time, For by allowing the free use of milk boiled with three parts of water, small-beer, or some similar liquor, I was enabled to check the commotion of the blood; and, on the other hand, by keeping the patient constantly in bed, with his arms covered, the filling of the pustules, and the swelling of the hands and face were promoted by the moderate warmth thereof. Nor does this method contradict itself; for after the eruption is over, it is to be supposed that the blood hath thrown out the inflamed particles upon the habit, and therefore needs no *stimulus* in order to a further secretion of the matter: so that, as the principal affair lies now in the habit of the body, and promoting the suppuration of the pustules, all that is to be done, with respect to the blood, is, to prevent its being injur'd by the hot vapours that may strike in from the skin cover'd therewith; and, with respect to the *pustules*, they are to be brought to suppuration by the gentle heat of the external parts.

*It failed in
this species
of small-
pox.*

6. But though this method succeeded well with me in the other kinds of the confluent small-pox, it nevertheless failed in those of this constitution; so that most of those died who had them in a violent degree, whether they were treated by my method, or by the hot regimen and cardiacs. I was very sensible therefore that, besides the medicines which serve to check the ebullition, or promote the elevation of the pustules, and swelling of the face and hands, there was further

Chap. 4.

*A different
one set
down,
which suc-
ceeded.*

*Spirit of
vitriol
commended.*

*No inconve-
nience at-
tending the
use thereof.*

further required a medicine of sufficient force to overcome the putrefaction, which appeared to be much greater in this species than in any other I had observed. At length I thought of spirit of vitriol, which I conceived might answer both intentions, *viz.* (1) check the progress of the putrefaction, and (2) mitigate the vehement heat. Whereupon leaving the patient to himself, without doing any thing till the pain and vomiting preceding the eruption were gone off, and all the pustules appeared, at length on the *fifth* or *sixth* day I allowed small-beer, gently acidulated with *spirit of vitriol*, to be taken at pleasure for common drink, recommending it to be drank more plentifully upon the approach of the suppuratory fever, and the use of it to be continued daily till the patient recovered.

7. This spirit, as if it were truly a specific in this disease, surprizingly abated all the symptoms; the face swell'd earlier, and in a greater degree, the spaces between the eruptions approach'd more to a bright red colour, like that of a damask rose; the smallest pustules also became as large as this species would allow, and those, which had otherwise been black, discharged a yellow matter, resembling a honey-comb; the face, instead of being black, appeared every where of a deep yellow; lastly, the eruptions came sooner to suppuration, and ran thro' all their stages a day or two sooner than usual. In this manner did the disease proceed provided the patient drank freely of the liquor above commended; so that, when I found there was not enough of it drank to take off the symptoms, I exhibited some drops of the *spirit of vitriol* between whiles, in a spoonful of some syrup, or a mixture of some distilled water and syrup, in order to make amends for the sparing use of the abovementioned liquor.

8. I have enumerated the many advantages of this medicine, and indeed I have not hitherto found the least inconvenience attending the use thereof (a): for tho' it mostly stopt the salivation on the *tenth* or *eleventh* day, yet some stools usually succeeded at this time instead of it,

(a) 'Tis justly to be apprehended that the blood may be coagulated, and the lungs and nervous parts highly injured by the free use of this noxious acid spirit. Oil of sulphur *per campanam*, or dulcified spirit of nitre, will answer the same end, and may be given much more safely.

Sect. 5. it, which were less dangerous than that stoppage; for, as we have often mentioned, such as have the confluent small-pox are principally endangered on these days, because the *saliva*, being rendered more viscid, does then threaten suffocation. Now, in the present case, this symptom is relieved by the looseness, which yet either goes off spontaneously, or is easily cured by the milk and water, and an opiate, when the danger from the small-pox is over.

The patient not to lie always in the same place in bed.

The regimen.

9. Whilst the patient lay in bed during this time, with his arms covered, I suffered no more clothes to be thrown on him than he was accustomed to when in health; and permitted him to change place as often as he pleased, to prevent his sweating, which he was extremely subject to, notwithstanding this remedy. In the mean time he sup'd water-gruel and barley-broth, and sometimes eat a roasted apple. Towards the decline of the disease, in case of faintness, or sickness at stomach, I indulged three or four spoonfuls of canary. And after the *fifth* or *sixth* day I exhibited an opiate, earlier than usual, every evening in grown persons, for children had no occasion for it. I prescribed *fourteen drops of liquid laudanum in cowslip water*.

Bleeding and purging when to be used after the small-pox is gone off.

10. On the *fourteenth* day I allowed the patient to rise, and on the *twenty-first* directed bleeding in the arm (*b*), and then exhibited two or three purges at convenient internals; after which the face appeared of a more florid colour, than was usual when the disease had proved very violent. For this method likewise preserved the face from those unseemly scars, which are occasioned by the corrosion of the skin from hot humours.

The method exemplified in a grown person.

11. On the twenty sixth of *July*, 1675, Mr *Elliot*, one of the grooms of the bed-chamber to the king, committed to my care one of his servants, who had this dreadful species of the black small-pox coming out.

He

(*b*) Few authors have insisted upon bleeding universally after the small-pox, and the modern practice by no means favours it; and indeed when the disease has been severe, it should seem prejudicial, as the blood must needs have been greatly impoverished, and the spirits considerably exhausted by the preceding illness. Cases however may happen where bleeding is requisite, but they should be particularly described, and mark'd as exceptions to the general rule.—Purging is always proper, and ought never to be omitted.

He was about eighteen years of age, of a very sanguine constitution, and was attacked with this distemper soon after hard drinking. The pustules were of the confluent kind, and ran together more than any I had hitherto seen, so that scarce any intermediate space was left between them. Relying upon the virtue of this efficacious medicine, I omitted bleeding, tho' I was called in soon enough to have done it, and ought indeed to have performed it, as the disease was occasioned by drinking wine too plentifully. When the eruption was over, *viz.* on the *fifth* or *sixth* day, I ordered *spirit of vitriol* to be dropt into some bottles that were filled with small beer, and allowed this liquor to be drank at pleasure for common drink. On the *eighth* day he bled so much at the nose, that the nurse, terrified by this symptom, sent in great haste for me. Accordingly I went, and perceiving that this hemorrhage arose from the immoderate heat, and extraordinary commotion of the blood, I ordered him to drink more freely of the acidulated small beer, whereby the flux of blood was soon stopt. The salivation being plentiful enough, and the swelling of the face and hands, and the filling of the pustules, proceeding in a proper manner, the disease went on very well, except that in the decline it was attended with some blood, and mucous stools, which might possibly have been prevented by bleeding in the beginning. Nevertheless I us'd no other medicine in this *dysentery*, since this symptom required nothing further than the opiate, which I should have ordered to be taken every evening, if this disorder had not happened; and by this means it was checked, till the eruptions went off; and afterwards, upon taking away a sufficient quantity of blood from the arm, and drinking plentifully of milk and water, the patient soon recovered.

12. About the same time, Mr *Clinch*, a neighbouring gentleman, committed two of his children to my care; the one was four years of age, and the other suck'd, and was not six months old; the eruptions were very small and confluent in both, and of the black kind, and came out like an *erysipelas*. I directed *spirit of vitriol* to be dropt into all their drink, which, notwithstanding their age, they drank without aversion; and not being affected with any more violent symptom, they

In two children.

Sect. 5. they soon recovered. My intimate friend, Dr *Mapletoft*, accompanying me to visit them, found the eldest recovering, and the youngest then lying ill in the cradle.

Spirit of
vitriol was
unnecessary
in the di-
stinct kind.

13. But it must be observed that as the distinct species of the *small-pox* of this constitution was mild, it needed not this remedy; the method we have before laid down, for the cure of the distinct kind, sufficing here.

The small-
pox not to
be met with
in Hippo-
crates, or
Galen.

14. And now I have given the reader all my observations relating to the *small-pox*; and tho' they may perhaps in this censorious age be esteemed of little moment, yet I have with great pains and care spent many years in collecting them; nor had I now published them, if a design of benefiting mankind had not induc'd me to it, even at the expence of my reputation, which I am sensible will suffer on account of the novelty of the method. And yet I cannot conceive why a new method of curing a disease, not to be met with in *Hippocrates*, or *Galen*, (unless perhaps some passage in their writings have a forc'd interpretation put upon it) should be censured, since the methods of cure appropriated by the modern physicians, not having been establish'd by those great lights of physic, may as reasonably be rejected by some as magnified by others.

15. And for the same reason it should not seem strange, that I have made some alteration in the method of curing those fevers, which depend on the constitution wherein the *small-pox* is epidemic. For if the *small-pox* never appeared in those early ages, it follows likewise that such fevers never existed. But it is highly probable there was no *small-pox* to be found at that time; for if this distemper had been as common then as it is now, I am of opinion it could not have been concealed from the sagacious *Hippocrates*, who, as he understood the history of diseases more thoroughly, and has described them more accurately, than any of his successors, would also have left us, according to his custom, a plain and genuine description of this disease.

Diseases
have cer-
tain peri-
ods, and
whence.

16. Hence therefore I conjecture, that diseases have certain periods according to the different age of the earth, and the secret and hitherto unknown alterations happening in its bowels. And that as some diseases have existed in former ages, that are now either quite extinct, or at least appear very seldom, as being wasted with age, such as the *leprosy*, and perhaps some others; so the dis-
eases

eases which now prevail, will at length vanish, and yield to other new species, of which indeed we can form no idea. This may be the case, whatever conceptions we, (who were born, as it were but yesterday, and to morrow perhaps may die,) have of this matter; nor are the practical observations of the ancients of much longer date, if compared with the beginning of the world.

C H A P. V.

Of the epidemic Cough of the Year 1675, and the Pleurisy and Peripneumony which followed upon it.


1. **I**N 1675 the season having continued unusually warm, like summer, till towards the end of October, and being suddenly succeeded by cold and moist weather, a cough became more frequent than I remember to have known it at any other time; for it scarce suffered any one to escape, of whatever age or constitution he were, and seized whole families at once. Nor was it remarkable only for the numbers it attack'd (for every winter abundance of persons are afflicted with a cough) but also on account of the danger that attended it. For as the constitution, both now and during the preceding autumn, eminently tended to produce the epidemic fever above described, and as there was now no other epidemic existing, which by its opposition might, in some measure, lessen its violence, the cough made way for, and readily changed into the fever. In the mean while, as the cough assisted the constitution in producing the fever, so the fever on this account attacked the lungs and *pleura*, just as it had affected the head even the week preceding this cough; which sudden alteration of the symptoms occasion'd some, for want of sufficient attention, to esteem this fever an *essential pleurisy* or *peripneumony*, tho' it remained the same as it had been during this constitution.

The rise of an epidemic cough.

The fever remain'd the same notwithstanding the sudden change of its symptoms.

2. For it began now, as it always did, with a pain in the head, back, and some of the limbs; which were the symptoms of every fever of this constitution, except only that the febrile matter, when it was copiously deposited

Exemplified in the manner of its seizure, and the cure.

 Sect. 5. deposited in the lungs and *pleura*, thro' the violence of the cough, occasioned such symptoms as belong to those parts. But nevertheless, as far as I could observe, the fever was precisely the same with that which prevailed to the day when these coughs first appeared; and this likewise the remedies to which it readily yielded plainly shew'd. And tho' the pungent pain of the side, the difficulty of breathing, the colour of the blood that was taken away, and the rest of the symptoms that are usual in a pleurisy, seemed to intimate that it was an *essential pleurisy*; yet this disease required no other method of cure than that which agreed with the fever of this constitution, and did no ways admit of that which was proper in the *true pleurisy*, as will hereafter appear. Add to this that when the pleurisy is the original disease, it usually arises betwixt spring and summer; whereas the distemper we now treat of, begun at a very different time, and is only to be reckoned a symptom of the fever which was peculiar to the present year, and the effect of the accidental cough.

*Particulars
to be considered, pre-
paratory to
the method
of cure.*

3. Now in order to proceed in a proper manner to the particular method of cure, which experience shews to be requisite both in this cough and in those which happen in other years, provided they proceed from the same causes, it is to be observed that the *effluvia* which used to be expelled the mass of blood by insensible perspiration, are struck in, and thrown upon the lungs, from the sudden stoppage of the pores by cold, and by irritating the lungs, immediately raise a cough. And the hot and excrementitious exhalations being by this means detained in the habit, a fever is easily raised in the mass of blood; namely, when either the vapours are so copious that the lungs are unable to expel them, or the inflammation is increased by the adventitious heat arising from the use of over-heating remedies, or too hot a regimen, so as suddenly to cause a fever in a person who was already too much dispos'd to this disease. But of whatever kind the *stationary fever* be which prevails the same year, and at that particular time, this new fever soon assumes its name, and becomes of the same kind, and is every where subservient thereto; tho' it may still retain some symptoms belonging to the cough, whence it arose. In every cough, therefore, proceeding from this cause, 'tis sufficiently apparent that regard

gard must not only be had to the cough, but likewise to the fever that so readily accompanies it.

Chap. 5.

4. Relying on this foundation I endeavoured to relieve such as required my assistance by the following method: if the cough had not yet occasioned a fever, and other symptoms, which, as we said, usually accompany it, I judged it sufficient to forbid the use of flesh-meats and all kinds of spirituous liquors, and advised moderate exercise, and the benefit of the open air, with a draught of a cooling pectoral ptisan to be taken between whiles. These few things sufficed to relieve the cough, and prevent the fever, and other symptoms, usually attending it. For by the abstinence from flesh and spirituous liquors, along with the use of cooling medicines, the blood was so cooled, as not easily to admit of a febrile impression, and by means of exercise those hot *effluvia* of the blood, which strike in, and occasion a cough, as often as the pores are stopt by sudden cold, are commodiously exhaled in the natural and true way, with advantage to the patient.


The method of cure delivered.

5. With respect to quieting the cough it is to be observed that opiates, spirituous liquors, and heating medicines us'd for this purpose are all unsafe; for the matter of the cough being hardened thereby, those vapours, which should pass off from the blood, in a gentle and gradual manner, by coughing, are detain'd in the mass, and raise a fever. And this frequently proves very fatal to abundance of the common people, who whilst they imprudently endeavour to check the cough, by taking burnt brandy and other hot liquors, occasion pleuritic, or peripneumonic disorders; and by this irrational procedure render this disease dangerous, and often mortal, which of its own nature is slight, and easy of cure. Neither do they err less, tho' they seem to act more reasonably, who endeavour to remove the cause of the disease by raising sweat, for tho' we do not deny that spontaneous sweats frequently prove more effectual than all other helps in expelling the morbid cause yet 'tis apparent that whilst we attempt to force sweat we inflame the blood, and may possibly destroy the patient.

Opiates, spirituous liquors, and heating medicines unsafe.

6. But it happens sometimes, not only when the disease has been unskilfully treated, in the manner above described, but also spontaneously, at the begin-

The cough sometimes join'd with feverish symptoms.

Sect. 6.  ning of the illness, or in a day or two after, especially in tender and weakly persons, that the cough is succeeded by alternate intervals of heat and cold, a pain in the head, back and limbs, and sometimes a tendency to sweat, especially in the night; all which symptoms generally followed the fever of this constitution, and were frequently joined with a pain of the side, and sometimes with a constriction, as it were, of the lungs, which occasioned a difficulty of breathing, stop'd the cough, and increased the fever.

The feverish symptoms, how best relieved.

A caution concerning glysters.

Rough methods, and abundance of remedies very pernicious.

7. According to the best observation I could make, the fever, and its most dangerous symptoms, were best reliev'd by bleeding in the arm, applying an epispastic to the neck, and giving a glyster every day. In the mean time I advis'd the patient to sit up some hours every day, to forbear flesh meats, and sometimes to drink small-beer, sometimes milk and water, and sometimes a cooling and lenient ptisan. If the pain of the side abated not in two or three days, but continued very violent, I bled a second time, and advis'd the continuance of the glysters. But with respect to glysters, it must be carefully observed, either in this or other fevers that they are not to be long and frequently used when the disease is in its decline; especially in hysteric women, and in men that are subject to the hypochondriac disease; for the blood and juices of such persons are easily changed, and soon agitated and heated, whence the animal oeconomy is disturbed, and the febrile symptoms continue beyond the usual time.

8. But to return to our subject: whilst by this means we allow'd time that the blood might gradually free itself from those hot particles that were lodged in the pleura and lungs, all the symptoms usually went off in a gentle manner; whereas when the disease was treated in a rough way, by giving abundance of remedies, it either destroyed the patient, or render'd it necessary to repeat bleeding oftener than the disease required, or would safely bear in order to preserve life. For tho' repeated bleeding answers every purpose in the genuine pleurisy, and is alone sufficient for the cure, provided there be no hinderance from a hot regimen, and heating medicines; yet here, on the contrary, it sufficed to bleed once, or at most twice, in case the patient refrained from bed, and drank cooling liquors. And I

never

never found it necessary to bleed more frequently, unless the symptoms relating to the *pleura* and lungs were much increased by some adventitious heat, and even in this case the practice was not wholly void of danger.

9. Upon this occasion I shall briefly deliver my sentiments with respect to a very trite and common opinion; *viz.* that a pleurisy is found to be of so malignant a nature in some years, that it will not then bear bleeding, at least not so often as this distemper ordinarily demands. Now tho' I conceive that a genuine and *essential* pleurisy, which, as shall hereafter be observed, happens indifferently in all constitutions, does in all years equally indicate repeated bleeding; yet it sometimes happens that the peculiar epidemic fever of the year, from some sudden alteration of the manifest qualities of the air, readily throws off the morbid matter upon the *pleura* and lungs, whilst the fever notwithstanding continues precisely the same. Wherefore in this case, tho' bleeding may be used to abate this symptom when it is very violent, yet, generally speaking, little more blood ought to be taken away than is required by the fever whereon this symptom depends; for if the fever be of such a kind that it will bear repeated bleeding, it may likewise be repeated in the pleurisy, which is a symptom thereof: but if the fever will not bear repeated bleeding, it will prove prejudicial in the pleurisy, which will go off, or remain as it does. And in my judgment this was the case in the *symptomatic pleurisy* that accompanied the fever which prevailed here at the time the cough began, namely in winter, in 1675; and therefore I must observe that whoever, in the cure of fevers, hath not in view the constitution of the year, with its tendency to produce some particular epidemic disease, and likewise to reduce all the other happening at the same time to the form and likeness of this, proceeds in an uncertain and fallacious way.

10. In the month of *November* of the above-mentioned year, I attended the eldest son of Sir *Francis Windham* in this fever. He was afflicted with a pain in his side, and the rest of the symptoms that are common in this disease. I bled him only once, applied an epispastic to his neck, injected glysters every day, gave him cooling ptizans and emulsions, and sometimes milk and water, or small-beer to drink; and advised his sit-

A malignant pleurisy sometimes happens.

Repeated and copious bleeding bad herein.

A pain in the side, &c. remov'd without repeated bleeding.

Chap. 5. ting up a few hours every day ; by which means the symptoms went off in a few days, and a purge completed the cure.

The cough without a fever, how to be treated.

11. But it must be remarked that tho' these were the common symptoms which succeeded the cough, during this winter, yet the cough, unattended with these symptoms, was more prevalent at the same time. But this required neither bleeding, nor glysters, provided a fever was not occasioned by a hot regimen, or heating medicines ; it sufficed to allow the benefit of the open air, forbidding the use of flesh, wine, and other spirituous liquors of the like kind. I likewise ordered the following troches to be taken often, which indeed excel all those I have hitherto found in stopping coughs occasioned by taking cold (a).

Pectoral troches.

Take of sugar-candy, two pounds and half ; boil it in a sufficient quantity of common water till it sticks to the fingers ends ; then add of powder of liquorise, elecampane, and seeds of anise and angelica, each half an ounce ; powder of Florentine orrice root, and flower of brimstone, each two drams ; oil of aniseed, two scruples ; make the whole into troches with the requisite art ; which the patient should always carry in his pocket, taking one of them frequently.

12. Before I conclude this essay on epidemic diseases, I must answer an objection that I foresee will be made to part of it ; viz. that it does not seem sufficient to oppose the malignity that accompanies many of these diseases. 'Tis not my design, nor am I able, to confute the received opinion of the learned, whether ancients or moderns, in relation to malignant, since there are

(a) The troches here described and commended will do service in habitual coughs, unattended with a fever, where the matter requires to be thinn'd, in order to facilitate its expectoration. But where the matter is thin, acrimonious, and irritating, troches should be made of agglutinant, smooth, mucilaginous, and mild astringent ingredients : in both cases blistering freely is highly serviceable. — The following loloeh, from the *Edinburgh dispensatory*, is an excellent medicine to stop a cough occasioned by a thin, tickling rheum.

Take of compound powder of gum-dragon, two drams ; of the white of eggs, beat up, an ounce ; syrup of diacodium, two ounces ; mix them together into a loloeh ; whereto may be added a dram of Japan earth.

are evident proofs of it in most epidemics (b). I only
 beg leave to propose my sentiments of the nature of
 this malignity, in order to prove the reasonableness of
 my practice. Chap. 5.

13. I conceive then that all the malignity which ap-
 pears in epidemics, whatever its specific nature be, con-
 sists and centers in very hot and spirituous particles,
 that are more or less opposite to the nature of the juices
 contained in the body; because only such particles are
 capable of producing so sudden an alteration of the
 juices, as is frequently observed in malignant diseases.
 And I judge that these hot and spirituous particles
 chiefly act by way of assimilation; for by the law of
 nature every active principle endeavours to produce its
 like, and to reduce and mould whatever opposes it to
 its own nature. Thus fire generates fire, and a person
 seiz'd with a malignant disease infects another by an
 emission of spirits, which soon assimilate the juices to
 themselves, and change them into their own nature.

*Malignity
 explained.*

14. From these considerations it seems to follow that
 tis best to expel these particles by sweat, since by this
 procedure the disease would be immediately eradicated.
 But experience contradicts this, and shews that every
 species of malignity will not admit of this remedy.
 For tho' in the *plague*, the pestilential particles, as well
 on account of their exceeding subtilty, as likewise be-
 cause they reside in the most spirituous parts of the
 blood, are dissippable, and may be expelled by an unin-
 terrupted sweat; yet in other fevers, where the assim-
 ilating particles are less subtile, and mixt with grosser
 humours, the malignant *minera* cannot only not be ex-
 pelled by sweat, but is frequently increased by the dia-
 phoretics that are given to promote it. For the more
 active those hot and spirituous particles are rendered by
 the use of heating medicines, the more is their power
 of assimilating increased; and the more likewise those
 juices

*In what
 kind thereof
 sweating
 is proper.*

O 4

(b) Malignant diseases are known by these signs: they begin
 with a slight coldness and shivering, a great loss of strength
 immediately ensues, and the pulse at the same time is small, quick
 and contracted; an erect posture easily occasions fainting, the patient
 is perpetually drowsy but cannot sleep, and if he does, a greater de-
 cay of strength succeeds thereupon, with a *delirium*; he complains
 of no great pain, thirst, or other troublesome symptom, and yet is
 uneasy, and at length the extremities grow cold, the pulse begins
 to intermit, and can no longer be perceived in the wrist, and
 death is at hand.

Sect. 5. juices are heated whereon they act, so much the more readily are they assimilated, and yield to the impressions thereof. Whereas, contrariwise, it is reasonable to think that medicines of an opposite nature do not only restrain the action of the hot and acrid particles, but likewise thicken and strengthen the juices, so as to enable them to undergo, or even to conquer the force of the morbidic spirits. And here I may appeal to experience, which hath taught me that the purple spots in fevers, and the black eruptions in the small-pox, increase more readily in proportion as the patient is heated; and that, according to the coolness of the regimen employ'd, which is very suitable in these diseases, they are us'd to decrease and be diminished.

Why malignant diseases have often few febrile symptoms.

15. Now were it to be inquired whence it happens, since malignity consists in such hot and spirituous particles, that so few signs of a fever are frequently found in the most malignant disease; it might be answered, first, that in the *plague*, the most remarkable instance of malignity, the morbidic particles are so very subtle, especially in the beginning, that they pass thro' the blood like lightning, and (the spirits being as it were fix'd or congealed) raise no ebullition therein, whence the patient dies without a fever.

16. But in other epidemics, accompanied with a less degree of malignity, the febrile symptoms are sometimes so slight, from the disturbance raised in the blood by the morbidic particles contained in the mass, that nature, being in a manner oppressed, is rendered unable to produce the more regular symptoms that are suitable to the disease, and almost all the phenomena that happen are irregular, by reason of the entire subversion of the animal oeconomy; in which case the fever is often depressed, which of its own nature would be very high. Sometimes also fewer signs of a fever appear than the nature of the disease requires, from the translation of the malignant cause, either to the nervous system, to some other of the solid parts, or to some of the juices lying out of the road of the circulation, while the morbidic matter is yet turgid.

Malignity how most conveniently conquered.

17. But which way soever it be, I am not able even to conjecture what other method of cure ought to be used to conquer the malignity, besides that which is suitable to the epidemic wherewith it is joined. So that
whether

whether the epidemic be of the same nature of those wherein the febrile matter is first concocted, and then properly expelled by sweat; of the nature of those that are terminated by some eruption; or of those that require the assistance of art to make way for them: in all these kinds, the malignity, which is the concomitant of the disease, will rise, and sink, remain, and go off with the original disease; and consequently whatever evacuation agrees in general with the fever, agrees likewise with the malignity, how much soever these evacuations may be of a contrary nature to each other. Hence the malignity that accompanies autumnal intermittents, and also the continued fever, which is of the same nature, will yield to a sweat, which follows concoction as its effect. And the seasonable suppuration of the pustules in the small-pox will take off the malignity attending that disease, and so of the rest: in all which the peculiar species of malignity is best overcome by those methods which prove most successful in the cure of those diseases whereto it belongs, whether by this or any other procedure. This appears evident to me from reason, and it is likewise universally confirm'd by experience.

C H A P. VI.

The Recapitulation.

1. **A**ND thus we have, at length, shewn, that the space of years which furnished us with the preceding observations produced five different kinds of constitutions, that is, five peculiar dispositions of the air, productive of as many peculiar epidemic fevers. But the first of these fevers, which prevailed in those years wherein autumnal intermittents chiefly raged, seems to be the only one, as far as I could hitherto observe, in which nature regulated all the symptoms in such manner as to fit the febrile matter, prepared by proper concoction, for expulsion in a certain time, either by a copious sweat, or a freer perspiration; and upon this account I call it the *depuratory fever*. And in reality I am inclined to believe, that this is the capital and *primary* fever of nature, as well with respect to

*Five kinds
of constitu-
tions de-
scribed in
the fore-
going sheets.*

the

Sect. 5.



Intermittents, the most frequent disorders.

the regular method which nature uses in promoting and accomplishing the digestion of the morbid matter at the appointed time, as also because it occurs more frequently than other fevers.

2. For 'tis probable that intermittent fevers oftener prevail epidemically than all other diseases whatsoever, if those authors may be credited who have writ so largely concerning their frequency in former ages, whatever may be the reason of their appearing so seldom since the plague depopulated this city; for the pestilential fever was the forerunner of the inflammatory fevers that afterwards succeeded. And it seems reasonable to judge that the necessary and excellent aphorisms, left us by *Hippocrates* and other ancient physicians, are adapted to the *primary* fever abovementioned, by means of which it is to be regulated in such manner that the febrile matter may be prepared to make a proper *crisis* by sweat: nor do I perceive how these aphorisms can be applied to the succeeding species of fevers, which are of a very different nature, and are rarely cured by such a method. But however this be, I esteem it worth observing, that this fever, which depended on that constitution wherein intermittents prevailed over the rest, if it proved of long continuance, or if the patient was weaken'd by large evacuations, sometimes changed to an intermittent; whereas the fevers that prevailed in the following years, tho' they continued very long, scarce ever became intermittent; which afforded a pretty clear proof, that that continued fever and those intermittents differed little in their nature from each other.

The species of a fever, how discovered.

3. Now if I should be ask'd in what manner the species of a continued fever may be gathered from the signs set down by me in the description of fevers, since every particular fever is mostly attended with those symptoms which all fevers have in common, as heat, thirst, restlessness, and the like; I answer, it is indeed difficult, but not impossible, in case all the circumstances enumerated in the preceding history be thoroughly attended to, especially to a physician residing in a city, or other populous place. For let us suppose that he is called to attend a person in a continued fever; he has this, in the first place, to assist him to form a right judgment of the species, *viz.* (1) he may easily learn, either

either by his own observations, or the relation of others, what other diseases, besides this fever, rage epidemically in those places, and of what kind they are; which being known, he will be no longer in doubt of what kind that fever is, which accompanies the other then reigning epidemic. For tho' the fever may possibly appear with such symptoms only as are common to all fevers, especially if it be disturb'd by an unsuitable method of cure, yet other epidemics will clearly discover the signs that are peculiar to its nature and genius.

4. Thus, for instance, whoever is thoroughly acquainted with the history of the small-pox will easily conjecture, either by the day on which the eruptions came out, or by their size, colour, and the like, to what kind of *small-pox* this particular species is to be referr'd; and when once that species of the small-pox is discovered, which prevails chiefly in that year and in those places, the species of any fever that then and there prevails will manifestly appear. And undoubtedly if I were perfectly acquainted with the history of diseases, which I do not pretend to, as I should not scruple, upon seeing any epidemic, to declare of what kind the reigning fever of that time was, tho' I had never seen it, so likewise having seen any fever, it would sufficiently teach me what epidemic accompanied it; *viz.* if the measles, small-pox, or dysentery, &c. For some particular species of these diseases, as well as a peculiar fever, constantly attends every particular constitution.

5. (2) Besides the signs, which an attention to the contemporary epidemics affords, the symptoms of every fever let in some light for discovering the species thereof. For tho', as we intimated above, all fevers have some symptoms in general, yet there are certain distinguishing signs which nature has particularly affixed to every species; but as these are more latent and minute, they are usually discovered only by very diligent and accurate observers. Amongst these distinguishing signs, I have always reckoned that *sweating* or *dryness*, at a particular time of the disease, chiefly shewed the species of the fever, in case the fever had **not** been forc'd from its own natural state by an improper method. And this manifestly appeared to me in all the epidemic fevers, which have been treated of in these observations.

*Sweating
or dryness
principal
distinguish-
ing signs.*

6. To

Sect. 5.

Exemplified.

6. To give some instances of this: in those fevers which prevailed upon the decline of autumnal intermittents, the external parts were dry, nor was there the least sign of sweat before the concoction of the febrile matter, which was generally completed on the *fourteenth* day: and in this case it was very dangerous to raise a sweat, a *delirium*, and other fatal symptoms being immediately occasioned thereby. In the pestilential fever, which followed this, and preceded all the subsequent inflammatory fevers, no spontaneous sweat appeared, but a sweat might be raised in the beginning, by exhibiting sudorifics, and as soon as it flowed all the symptoms went off. In the next succeeding fever, which accompanied the small-pox in those years wherein it prov'd regular, the patient was subject to profuse spontaneous sweats in the beginning of the illness, but by encouraging them all the symptoms were increased. In the two fevers that accompanied the two irregular kinds of the small-pox and the dysentery, the sweat was likewise irregular, and generally appeared only in the beginning of the disease: tho' the sweat which accompanied the former fever was somewhat more copious than that which accompanied the latter but neither afforded any relief, because the sweat proceeded not from previous concoction, but from the confused motion of the noxious particles.

7. But it seems exceeding difficult to me to discover the species of a new fever in the first year of a constitution, when we have hitherto seen no example of it, nor are able to conjecture what epidemic diseases may hereafter arise, which are generally preceded by this fever. It would be tedious to enumerate all the particulars that occurred in those years of which I have treated, whereby it might appear that many manifest signs were suggested by nature, to enable us to make such discovery; and consequently this knowledge necessarily depends upon a careful and accurate observation of all particulars.

8. But tho' it be difficult, if not impossible, to ascertain the species of a new fever at its first coming, yet with respect to the cure, the indication to be taken from such things as do good or mischief, at least, remains to assist us therein; by means of which we may by degrees find out a way to secure the patient, provid-
ed

ed we do not hurry on too fast, which indeed I esteem to be most particularly pernicious, and to have destroyed more persons in fevers than any other thing whatsoever. Nor do I think it below me to acknowledge, with respect to the cure of fevers, that when no manifest indication pointed out to me what was to be done, I have consulted the safety of my patient, and my own reputation, most effectually, by doing nothing at all; for whilst I carefully attended the disease, that I might be able to overcome it more commodiously, the fever either went off by degrees spontaneously, or assumed such a shape, as shew'd what medicines were to be used to remove it. But 'tis much to be lamented that abundance of sick persons are so ignorant, as not to know that 'tis sometimes as much the part of a skilful physician to do nothing at all, as, at others, to exhibit the most effectual remedies; whence they not only deprive themselves of the advantages of a fair and honourable procedure, but impute it either to neglect or ignorance; whereas the most illiterate empiric knows how to heap medicine on medicine as well as the most prudent physician, and usually does it much more.

9. And now I have delivered nearly all the observations I have hitherto made (at least such as could be brought into some method) with respect to the species of *epidemic diseases*, and the order wherein they succeeded from 1661 to the end of 1675, when the small-pox and the continued fevers which accompanied it, and had prevailed for near two years, became more gentle, and seemed to be going off. As to the diseases that may hereafter succeed, they are only known to him from whom nothing is hid.

SECT.

SECT. VI. CHAP. I.

Of intercurrent Fevers.

Stationary
fevers pre-
vail accord-
ing to their
order.

Intercur-
rents mixt
with these
and each
other indis-
criminate-
ly.

Intercur-
rents enu-
merated.

The fever
the original
disease in
all.

I. **T**HE observations of the preceding years, above delivered, sufficiently shew that some fevers are deservedly entitled *stationary fevers*; I mean such as arise from some particular constitution of a particular year, not yet sufficiently known. Every one of these prevails in its order, and rages with great violence, having, as it were, the ascendant over all the rest, during that continued course of years. Whether there are any other species, besides those just mentioned; or whether they succeed each other in a certain term of years in a constant and invariable order, or whether it be otherwise, I have not yet been able to discover. But there are also other continued fevers, which, tho' they sometimes rage less, and at other times more severely, yet because they are mixed with all kinds of *stationary fevers*, and likewise with each other indifferently in the same year, I conceive they should be called *intercurrents*. I shall in the following sheets communicate all that I have learnt from observation concerning the nature of these fevers, and the method of curing them: they are, the *scarlet fever*, *pleurisy*, *bastard peripneumony*, *rheumatism*, *crispelatous fever*, the *quinsey*; and, perhaps, some others.

2. But as all these diseases are, during their state, or at least were, accompanied with a fever, till it went off, the febrile matter being thrown upon some particular part, according to the nature of the distemper, I question not that the fever is to be accounted the primary disease, and that the other disorders whence those diseases generally derive their name are symptoms, which chiefly regard either the peculiar manner of the *crisis*, or the part principally affected. But provided the thing be agreed upon, I shall not dispute about names; tho' I take the liberty to call a disease by this or that name, as best pleases me.

3. It must be observed, that as the *stationary fevers*, of which we have treated above, prevail'd more or less epidemically, as we said, according as they were favoured by the constitution of years, resulting from a secret and inexplicable temperature of the air; so likewise did these *intercurrents* sometimes, but less frequently. For tho' they generally arise from some particular disorder of particular bodies, whereby the blood and juices are some way vitiated, yet sometimes they proceed *mediately* from some general cause in the air, which, by its manifest qualities, so disposes the human body, as to occasion certain faults of the blood and juices, which prove the immediate causes of such *epidemic intercurrents*. As for instance, when a sharp frost, which has lasted a long time, and continues late in the spring, is suddenly succeeded by warmer weather, *pleurisies*, *quinsies*, and the like diseases usually arise, whatever be the general constitution of the year. And because these diseases, which happen indifferently in all years, do sometimes rage as epidemically as those which only happen in a certain successive course of years, we chuse to call them *intercurrents*, in order to distinguish them from the latter.

Intercurrents are sometimes epidemic.

4. But notwithstanding the considerable difference there is between these two kinds of fevers, with respect to the causes proceeding from the air, yet they frequently agree in other external and *procatartick* causes. For not to mention *infection*, which sometimes communicates stationary fevers, and *surfeits*, which give rise to both stationary and intercurrent fevers, the manifest external cause of the greater part of fevers is to be sought for hence; either (1) a person hath left off his cloaths too soon, or (2) imprudently exposed his body to the cold after being heated with violent exercise; whence the pores being suddenly closed, and the perspirable matter retained in the body, that would otherwise have pass'd thro' them, such a particular kind of fever is raised in the blood, as the then reigning general constitution, or the particular depravity of the juices, is most inclin'd to produce. And indeed I am of opinion that abundance more have been destroy'd by this means than by the *plague*, *sword*, and *famine* together; for if a physician examines his patient strictly concerning the first occasion of the disease, he will generally find

Wherein stationary and intercurrent fevers agree.

Most fevers occasion'd by catching cold.

Se^{ct}. 6. find it to proceed from one of these causes, provided it be of the number of those acute diseases we have treated of above. Upon this account I always advise my friends never to leave off any wearing apparel, till a month before midsummer; and to be cautious of exposing themselves to the cold, when heated by exercise.

Most inter-
currents
are essen-
tial disea-
ses.

When not
so, how they
are to be
treated.

5. But it must here be carefully remarked that tho' the diseases I am now to treat under the title of *Inter-currents*, were most, if not all of them, *essential* diseases; yet frequently certain disorders happen in *stationary* fevers, resembling these *intercurrents* as to the phenomena, and likewise characteriz'd by the same name, which however are manifest symptoms of those fevers. Now in this case, they are not to be treated by the method which is to be used when they are essential diseases, but rather by that which the fever requires, whereof they are now symptoms, which method is only to be slightly adapted to their particular cure: and great attention is to be had to the fever of the year, and to find out the method whereby it may be easiest conquered, whether by bleeding, sweating, or any other procedure; for if this be disregarded, we shall frequently mistake, to the great detriment of the patient. Should it be objected that the disorders under consideration, which I term *essential*, are in reality only symptoms, I reply that perhaps they may be symptoms with respect to the fever whereto they properly belong, but they are at least symptoms of fevers, which always necessarily produce them. To exemplify this matter: in an *essential pleurisy* the fever is of such a nature, as always to deposite the morbid matter upon the *pleura*; in an *essential quinsy*, of such a nature as always to throw off the morbid matter upon the throat; and thus it happens in the rest: whereas when any one of the abovementioned diseases succeeds a fever, that belongs to a particular constitution of years, and is dependent thereupon, it is then 'produced *accidentally* only, and no way necessarily: for which reason there is a remarkable difference between them.

Essential
and sym-
ptomatic
disorders
how to be
distinguish-
ed.

6. But, in order to distinguish rightly between *essential* and meer *symptomatic* disorders, it is of moment to consider that the same symptoms which accompany any particular *stationary fever* at the beginning, will likewise happen at the same time in a *pleurisy*, or *quinsy*,

quinsey, when these are only accidental symptoms of such a fever, We had a proof of this in the above-mentioned *symptomatic pleurisy*, that succeeded the fever which prevailed in this winter of 1675, For all that were seized with the *pleurisy*, were afflicted, in the beginning, with a pain in the head, back, and limbs; which were the most certain and common symptoms of all those fevers that preceded the *pleurisy*, and continued after that disease went off. Whereas when either of these *intercurrents* is the *essential* disease, it attacks in the same manner in all years indifferently, having nothing at all in common with the then prevailing *stationary fever*. Besides, all the symptoms that afterwards arise are more apparent, as not being concealed and perplex'd by a mixture of other phenomena, of a different nature, and belonging to another fever. Again, the time of the year, wherein the greater part of *essential intercurrents* usually make their appearance, frequently points out the kind of disorders whereto they should be referred. But, lastly, he is best qualified to discover the diagnostic signs, both of these, and all other diseases, who, by daily and diligent observation, hath search'd so intimately into their phenomena, as at first sight to be able to distinguish the *genus*; tho' perhaps the characteristic differences of some of them may be so very subtle, that he cannot express them by words to another.

7. But as these different species of fevers, so far as I can learn by carefully considering their concomitants, and the method of cure, proceed from an inflammation of the blood, peculiar to every disease, I place the principal part of the cure in cooling the blood. In the mean time I endeavour universally to expel the morbid matter, by a method of cure, varied according to the nature of the disease, and which experience shews to be readily curative of the particular species thereof. And, in reality, whoever is thoroughly acquainted with the method of expelling the febrile matter, whether by bleeding, sweating, purging, or any other more proper way, will have the best success in the cure of all fevers.

These different species of fevers how to be treated.



C H A P. II.

Of the scarlet Fever.

Rise and
symptoms of
the scarlet
fever.

1. **T**HU' the *scarlet fever* may happen at any time, yet it generally comes at the close of summer, when it seizes whole families, but especially children. (1) A chillness and shivering come at the beginning, as in other fevers, but without great sickness; (2) afterwards the whole skin is covered with small red spots; which are more numerous, larger, and redder, but not so uniform as those which constitute the measles: (3) they continue two or three days, and after they are vanish'd, and the skin is scaled off, there remains a kind of branny scales, dispersed over the body, which fall off, and come again for twice or thrice successively.

The method
of curing it.

2. As this disease seems to me to be nothing more, than a moderate effervescence of the blood, occasioned by the heat of the preceding summer, or some other way, I do nothing that may prevent the despumation of the blood, and the expulsion of the peccant matter thro' the pores, which is quickly enough perform'd. Accordingly, I refrain from bleeding, and the use of glysters, which make a revulsion, whereby I conceive the noxious particles are more intimately mixed with the blood, and the motion which is more agreeable to nature is check'd. On the other hand I forbear cardiacs, by the heat of which the blood may perhaps be put into a more violent motion, than so gentle and mild a separation as effects the cure requires; and besides by this means a high fever may be occasioned, I judge it sufficient for the patient to refrain wholly from flesh, and all kinds of spirituous liquors, and to keep his room, without lying always in bed. When the skin is entirely peeled off, and the symptoms vanished, 'tis proper to give a gentle purge, suited to the age and strength of the patient. By this plain and manifestly natural method, this disease in *name* only, for 'tis little more, is easily cured, without trouble or danger. Whereas on the contrary, if we add to the patient's evils, either by confining him continually in bed, or exhibiting abundance of cardiacs and other superfluous remedies,

remedies, the disease is immediately augmented, and he frequently falls a victim to the over-officiousness of the physician.

3. But it should here be observed, that when epileptic *convulsions*, or a *COMA*, arise in this disease at the beginning of the eruption, which sometimes happen to children and young persons; 'tis highly proper to apply a large and strong epispastic to the neck, and immediately exhibit a paregoric of *syrup of white poppies*, which is to be repeated every evening during the illness; and he must be directed to make use of milk, boiled with thrice its quantity of water, for his ordinary drink, and to refrain from flesh.

What to be done if convulsions, or a COMA attend the beginning of the eruption.

C H A P. III.

Of the Pleurisy.

1. **T**HIS disease happens at any time, but chiefly between spring and summer; for the blood, being then heated by the fresh approach of the sun, is greatly disposed to fermentations, and immoderate commotions. It chiefly affects the sanguine, and frequently also attacks peasants, and such as have been accustomed to hard labour. It generally begins (1) with a chillness and shivering, which are followed (2) by heat, thirst, restlessness, and the other well-known symptoms of a fever; (3) in a few hours, (tho' sometimes this symptom comes much later) the patient is seized with a violent pungent pain in one side, in the parts adjacent to the ribs, which sometimes extends to the *scapula*, sometimes almost to the *spina dorsa*, and sometimes to the fore-part of the breast; (4) a frequent cough, likewise, afflicts the patient, and occasions great pain by the shock it gives to the inflamed parts, so that he sometimes holds his breath to prevent the first efforts of coughing; (5) the matter expectorated, at the beginning of the disease, is small in quantity, thin, and frequently streaked with blood; but in the course thereof it is more copious, and more concocted, and likewise mixed and coloured with blood; (6) in the mean time the fever proceeds equally, and even grows more violent with the symptoms arising therefrom:

When a pleurisy arises, and whom it chiefly affects.

Its symptoms.

Sect. 6. till at last, in proportion to the freer expectoration of the morbid matter, both the fever and its dreadful concomitants, as the *cough*, *spitting of blood*, and *pain*, &c. abate by degrees (a).

2. (7) But the matter productive of this disease does not always undergo such a concoction in the course thereof, as fits it for expectoration; for it frequently remains thin, and only a small quantity is expectorated, as in the beginning, and consequently the fever and its concomitants remit not at all till they prove mortal. (8) In the mean time, the belly is sometimes too costive, and at others too soluble, the stools being both frequent and very liquid; (9) sometimes, when the disease proves extremely severe, and bleeding has been omitted, the patient cannot cough, but having a great difficulty of breathing is almost suffocated by the violence of the inflammation, which is sometimes so very considerable, that he cannot dilate his breast sufficiently for respiration, without the most exquisite pain (b).
(10) And

(a) A pleurisy is excellently described by *Aretæus* in these words: "An acute pain accompanies it, which reaches to the throat, and in some to the back and shoulders; it is succeeded by a difficulty in breathing, watching, *nausea*, redness of the cheeks, and a dry cough; the spittle is difficultly expectorated, and is either phlegmy, very bloody, or yellowish. It is worse if the spittle be not bloody, or a *delirium*, or a *coma* come on." He tells us farther, that persons in this disease recover or perish, according to the vehemence of the symptoms, within the *seventh* or the *fourteenth* day: or, in case the distemper runs on to the *twentieth*, are seiz'd with an *empyema*. See *Aretæi oper. lib. i. cap. x.*

(b) The causes of this symptom being very accurately and clearly pointed out by Dr *Hoadley*, we shall transcribe his sentiments relating thereto. The lungs, says he, may be prevented from dilating and contracting, with perfect ease and freedom, both externally and internally. They may be prevented externally, first, by adhering to the *pleura*; and secondly, by a quantity of extravasated fluid, taking up a part of the cavity, and not allowing them room to play.

First, as to the adhesion of the lungs to the *pleura*. This is so common a case, that I believe the number of those who upon dissection are found with adhesions, greatly surpasses the number of those without them; but then these adhesions are of small extent, except in very diseased bodies.

Whilst the adhesion is thus of a small extent, and the body is in a tolerable degree of health, the lungs are able to play with sufficient freedom, and respiration is but little disturbed by it. But when it has spread itself to a great extent, and the lungs and *pleura* are inflamed, it not only greatly interferes with the action of respiration, but increases the distemper itself.

(10) And sometimes when the inflammation has been violent, and bleeding omitted (c) which should have been us'd at the beginning, an imposthume is occasioned,

Chap. 3.

P 3

the

In this case, the most certain symptom to determine us that there is such an adhesion, is the patient's being able to lie on one side only without pain, and with tolerable ease in breathing; and the adhesion is always on the side on which the patient lies with ease.

For, first, when the patient lies on the opposite side, the weight of the whole lobe that adheres, acts in a direction to tear it away from the *pleura*; whereas, when he lies on the same side with the adhesion, there is no such endeavour towards a separation.

And, secondly, when there is an adhesion, and the parts are inflam'd, the action of respiration should, for the ease of these parts, be carried on by a freer motion of the ribs on the other side; but when the patient lies on that other side, his posture not only prevents that side from relieving the other, by preventing the free motion of the ribs he lies on, but even obliges the diseased side to perform the greatest part of the action of respiration: which must necessarily rather increase than alleviate the pain and uneasiness in breathing.

Sometimes there are adhesions on both sides the breast, which for the same reasons give little or no trouble in respiration, before some other disease of the lungs or *pleura* arises; and when this disease produces an inflammation or imposthumation, one side is generally more affected than the other; and, consequently, very nearly the same symptoms will appear, as when the adhesion was on one side only.

In lungs, which have been diseased for a long time, the adhesion gradually spreads, and sometimes becomes universal. This is a case I have myself seen more than once, and requires our attention. See his *Lectures on the organs of respiration*, p. 76, 77.

(c) The cure of this disorder chiefly consists in bleeding; which is highly advantageous, not only in young persons, but likewise in the aged, because in general the latter are fuller of blood, and their blood is also thicker, and more tenacious, and occasions more intense inflammations, whence, if the strength will permit, bleeding may be repeated in them. Great care should be had to proportion the bleeding to the strength, and quantity of blood, so as neither to take away too little, nor too much; for the latter not only checks expectoration, but the obstruction to be opened is more confirm'd thereby, or degenerates into a mortification; and the former does little service, the blood in the mean time flowing more freely to the part affected and the obstruction increasing with the inflammation. See *Hoffman, Med. rat. systemat. tom. quart. pars I. p. 435.*

To this we shall subjoin an excellent remark of Dr *Huxham's* in relation to bleeding in pulmonic diseases. Bleeding, says he, is so far from being serviceable in pulmonic diseases, where expectoration is sufficiently easy and quick, that it often totally checks it; consequently it is no way indicated to be of use, unless there be an apparent *plethora*, or an acute pain, a difficulty of breathing, or a spitting of pure blood be so urgent as to require it. See his treatise *De aere & morbis epidemicis*, p. 52.

Sect. 6. the mttter being emptied into the cavity of the breast, in which case, tho' the original fever either goes off entirely, or at least abates, yet the danger is not over; for an *empyema* and an *hectic fever* succeed, and the patient is destroyed by a *consumption*.

A pleurisy
sometimes
synptoma-
tic.

3. Now tho' the *pleurisy* proceeds from that peculiar and specific inflammation of the blood, which usually produces it when 'tis a primary disease, yet it sometimes accidentally succeeds other fevers, of whatever kind they be, occasioned by the sudden translation of the febrile matter to the *pleura*, or intercostal muscles (*d*). This indeed happens in the very beginning of the fever, whilst the febrile matter is yet in a state of crudity, and not overcome by a due ebullition, and consequently not fitted for a proper separation by the most convenient out-lets. But this evil is most frequently caused by an unseasonable use of such heating medicines, as are usually given by ladies of fashion to persons in low circumstances; whose charity, in the mean time, would be much better plac'd in feeding the necessitous than in curing their diseases. But this, it seems, they do, to raise sweat at the beginning of the disease, little dreaming of the ill consequences thence arising. For nature, being hereby disturbed, is forced to expel the yet crude humours thro' the first passage that offers; whence the febrile matter is sometimes hurried violently to the *meninges*, and occasions a *delirium*, and sometimes to the *pleura*, and occasions a pleurisy; especially when the age, constitution of the patient, and the season of the year, namely that between spring and summer,

(*d*) The inner surfaces of the ribs, and intercostal muscles, and diaphragm, and the whole external surfaces of the lungs and *pericardium*, are most exactly covered by the *pleura*; which is a smooth strong membrane stretched over, and lining the whole cavity of the breast, and forming by its duplicatures the *mediastinum*, which divides the cavity into two.

This membrane, when it is in perfect health, is pliable in every part of it, that it may conform itself to the perpetual motion of all the parts it covers; but as it is furnished plentifully with arteries, veins, and nerves, it must be liable, like other parts of the body, to obstructions, inflammations, pain and suppuration; and therefore whenever it is in any part of it afflicted with any of these disorders, it must necessarily very remarkably disturb the action of the parts it is stretched over, and, according as the part affected is applied to the ribs, or diaphragm, the latter, or the former will be obliged to perform the greater share in the action of respiration. *Id.* p. 71, 72.

summer, jointly concur thereto: for in that season fevers are apt to turn to pleurifies. Chap. 3.

4. Now the colour of the blood that is taken away in a pleurisy, seems to shew that this disease arises from the sudden translocation abovementioned, for at the second bleeding at least, the blood, when cold, looks like melted tallow to a considerable thickness, but the top resembles true pus, and yet it is very different from that, as being very fibrous like the rest of the blood, and not fluid like pus; and upon separating this part from the rest, it appears like a tenacious fibrous skin; and perhaps 'tis only the sanguineous fibres, which having lost their natural red covering by precipitation, have hardened into this whitish membrane by the coldness of the air; but let it be observed here, by the way, that tho' the blood flows ever so fast, yet if it does not stream horizontally from the opened vein, but runs perpendicularly down along the skin, it is frequently of another colour, which I confess I cannot account for, and such a bleeding is also less serviceable. I have likewise observed that if blood, that is fresh drawn, be stirred about with the finger, the top will appear of a red florid colour as in any other disease, in what manner soever it flowed. But whatever be the appearance of the blood, this disease, tho' it has an evil name, and is in its own nature more dangerous than most others, is easily conquered by proper treatment, and indeed with as much certainty as any other.

Remarks on the blood in this distemper.

5. Upon a thorough attention to all the various phenomena of a pleurisy, I conceive it to be only a fever occasioned by a peculiar inflammation of the blood, whereby nature throws off the peccant matter upon the pleura (e), and sometimes upon the lungs, whence a peri-

Whence a pleurisy, and what it is.

P 4

pneumony

(e) A true pleurisy is an inflammation of the blood, caus'd by a stagnation thereof in the minute vessels of the bronchia, discovered a few years ago by the celebrated Ruyschius, which serve only to the nutrition of the membranes, vesicles, and vessels constituting the lungs. And therefore the lungs themselves are chiefly affected but only in their external surfaces. It is attended with greater difficulty in breathing, than the spurious, or bastard pleurisy, along with a spitting of blood, and is terminated by expectoration. It is also join'd with a more acute fever, but the pain is neither so sharp, nor the part affected so tender, as in the latter distemper.

See Hoffman, Med. rat. system. tom. quart. pars 1^{ma}, p. 427.

In the spurious, or bastard pleurisy, the pain in the side is very acute

Sect. 6. *pneumony* arises (f); which, in my judgment, only differs from a *pleurisy* in degree, and in respect of the greater violence, and larger extent of the same cause.

*Intentions
of cure in
this disease.*

6. In order, therefore, to cure this disease, I have the following ends in view (g); (1) to check the inflammation of

and pungent, and is increased by touching the part affected; the patient cannot easily lie on the pained side, and hath a dry cough, without spitting up a flegmy, or bloody matter; but nevertheless, if the cough be violent, it augments the pain. This distemper is likewise accompanied with a fever, and a hard, depressed, and quick pulse. — It does not require bleeding, unless there be a great fullness of blood, but is generally successfully and readily terminated by a breathing sweat, or free perspiration about the seventh day, and is nothing dangerous. *Ibid.*

Boerhaave observes that there are two kinds of *pleurisy*, a *dry* and a *moist* one, whereof the latter is easily cured, but the former generally threatens death; whence it is necessary to distinguish them. The *moist pleurisy* is attended with a symptomatic spitting of a viscid yellowish matter, tinged with blood, brought up from the inflamed part of the lungs, with a violent motion; but in a *dry pleurisy*, the spittle is thin, and comes from the throat, which is a sign that the inflammatory matter is not to be expectorated. See *Prax. M.d. pars 1^{va}*, p. 164.

(f) A *peripneumony* is accompanied rather with a tense, obtuse and heavy pain, than an acute one, and extends to the back and shoulders; but the difficulty in breathing is greater than in a *pleurisy*, and is also attended with anxiety, and a difficult expectoration of a various-coloured matter. For in this disease the vessels of the lungs, which convey the blood from one ventricle of the heart to the other are affected, being obstructed with a very thick blood, inclining to a state of congelation. Hence it is more dangerous, and easily destroys those whom it attacks, especially if they be aged persons, and a seasonable cooling of the blood has been omitted. See *Hoffman*, the book before quoted, p. 428.

(g) As the stagnation of the blood, which occasions an irregular circulation, is the only proximate cause of this disease, the cure turns wholly upon dissolving down the coagulation, and promoting the circulation; in order whereto these indications are to be answered. (1) All farther inflammation and stagnation of the blood are to be prevented; (2) the *lentor* of the blood is to be diluted and dissolved; (3) the part affected, become tense by the spasm, pain, and copious afflux of blood thereto, is to be softened and relax'd, so that the blood, stagnating therein, may be driven out by the arterious blood brought to it, and be again put in motion; and lastly (4) the expectoration of the viscid, bloody and purulene matter, lodg'd in the *bronchia*, is to be promoted, and the generation of an abscess, and *empyema* prevented.

Bleeding is to be us'd, in point of quantity and frequency, in proportion to the strength, vehemence of the disease, &c. from a large orifice, in order to prevent the increase of the inflammation; and the sooner it is perform'd, the more beneficial it proves. Diluents and discutients admirably assist in dissolving down and diluting the viscosity of the blood, for which purpose water gruel, or
barley

of the blood, and (2) to make a revulsion of the inflamed particles, fixed upon the *pleura* by proper evacuations. Chap. 3.

Depending therefore chiefly on bleeding, as soon as I am called in, I order about ten ounces of blood to be drawn from the arm of the affected side, and the following draught to be taken immediately after the operation. *The method of cure specified.*

Take of distilled water of red poppies, four ounces; sal prunella, one dram; syrup of violets an ounce; mix them together for a draught. *A cooling draught.*

At the same time I prescribe the following emulsion.

Take seven blanched sweet almonds, the seeds of melons and pumpkins, of each half an ounce; the seeds of white poppies, two drams; beat them together in a marble mortar; then pour on by degrees a pint and half of barley water; mix them well, and, when strained, add two drams of rose water, and half an ounce of white sugar.---Let four ounces be taken every fourth hour. *An emulsion.*

I also order pectorals to be taken frequently. *e. g.*

Take of the common pectoral decoction, a quart; syrup of violets and maidenhair, of each an ounce and half; mix them together for an apozem, of which let half a pint be taken three times a day. *A pectoral apozem.* *Take*

barley water, sweeten'd with honey, and whey are excellent liquors, drank warm. The pain and tension in the part affected may be much abated, by applying, and keeping fixt thereto, a bladder fill'd with a warm decoction of emollient ingredients in milk; as the flowers of elder, melilot and camomile, white-lilly and marshmallow roots, poppy heads, linseed and fenugreek seed, &c. Expectoration may be greatly promoted by the following *linctus*.

Take of fresh oil of sweet almonds, half an ounce; sperma ceti, two drams; saffron pulverized, ten grains; syrup of violets, and white sugar, of each an ounce and half: let a spoonful of this be taken often alone, or dissolved in a draught of water gruel, or whey, made warm.

The belly should be kept open by emollient glysters, the extremes of heat and cold are equally to be avoided, and nothing must be drank cold; all medicines also that work powerfully by urine, sweat, or stool must be carefully refrained. Opiates are bad in aged persons, and where the humours are thick, and the inflammation considerable. Expectorating medicines are not to be exhibited in the beginning, nor till the matter is concocted, viscous, moveable, and fit for excretion; otherwise a greater flow of humours to the lungs will be occasioned. See *Hoffman, Med. rat. syst. tom. quart. pars 1^{ma} de feb. pneumon. sparsim.*

Sect. 6.



*A pectoral
linctus.*

Take of fresh oil of sweet almonds, two ounces ; of syrup of maidenhair and violets, each an ounce ; white sugar, half a dram ; mix them together, and make a linctus, according to the rules of art.---A small quantity of this is to be swallowed leisurely often in a day.

Fresh oil of sweet almonds alone, or linseed-oil, is also frequently used with great advantage.

*The regi-
men*

7. As to diet, I forbid all flesh meats, and the smallest flesh broths, and advise the patient to sup barley-broth, water-gruel, and panada ; and to drink, a ptisan, made of pearl barley, sorrel and liquorice roots, &c. boiled in water, and sometimes small beer. And I also prescribe the following liniment.

*An emolli-
ent lini-
ment.*

Take of oil of sweet almonds, two ounces ; pomatum and ointment of marshmallows, of each an ounce : mix them together for a liniment, with which let the side affected be anointed morning and night, applying a cabbage leaf thereto.

I direct the abovementioned remedies to be continued the distemper throughout.

*Bleeding
how to be
performed.*

8. On the day I am first called, if the pain be extremely acute, I order the same quantity of blood to be again taken away ; if the case be otherwise, the next day, and the third ; and if the pain and other symptoms rage severely, I bleed in this manner four days successively. But if either (1) the disease be less violent and dangerous, or (2) repeated bleeding at such short intervals be contraindicated by the weakness of the patient ; then, bleeding having been twice performed, I interpose a day or two between every subsequent operation. In this case I make the contraindications the rule of my procedure ; on the one hand estimating the violence of the disease, and on the other the weakness of the patient. And tho' in the cure of diseases I would always be suffered to take away more or less blood, in proportion to the demand, yet I have seldom known a confirmed pleurisy cured in grown persons without the loss of about forty ounces of blood. In children, however, 'tis generally sufficient to bleed once or twice. Nor does a *looseness*, which sometimes happens, obstruct the abovementioned repeated bleeding ; for in reality it may soon be stop'd thereby, without exhibiting *astringents*.

9. I either refrain from glysters entirely, or order only simple ones of *milk and sugar*, and take care to have them injected at as great a distance between the bleedings as possible. Chap: 3.

10. To prevent the patient's being over-heated during the continuance of the distemper, I allow him to sit up a few hours every day, as his strength will permit; which indeed is of such moment here, that if he be kept always in bed, neither the plentiful evacuation of blood, nor the most cooling remedies will sometimes at all avail in conquering the symptoms above specified. *The patient to sit up some hours every day.*

11. Immediately after the last bleeding, and sometimes before, all the symptoms abate, and the patient recovers his former strength soon after, when it is proper to give some gentle purgative. And he should be debar'd for some days longer from gross foods, and all kinds of spirituous liquors. *A purge when to be given.*

12. But if it be said here that our method is defective, because we are so far from treating amply of the means of promoting expectoration, in the different stages of the disease, that we scarce mention them; we reply, that this has not been omitted thro' negligence, but purposefully, after mature consideration, as having always judged those to be in great danger who trusted the cure of this disease to expectoration. For, not to mention the tediousness of this method, by which nature endeavours to expel the morbid matter, 'tis likewise unsafe; for it often happens that part of the matter being concocted, and perhaps expectorated, the remainder continues yet crude, and this successively; the most powerfully expectorating medicines having been ineffectually us'd. For sometimes expectoration goes on very well, and at others is quite stopt, the patient, in the mean time, being on all sides endangered, and as I have no power at all over expectoration, it remains uncertain whether the distemper will terminate in his recovery or death. Whereas, on the contrary, by bleeding, the morbid matter is brought under my regulation, and the orifice of the opened vein may be made to supply the function of the wind-pipe (*b*). Moreover, I scruple not to affirm that *Why expectoration is not treated of.*

(*b*) To endeavour to promote *expectoration* in a simple *pleurisy* is absurd. Nothing does so much service here as timely, copious and frequent bleeding, along with diluting and emollient liquors, drank *Advantages of bleeding.*

Sect. 6. that this disease, which is justly reckoned amongst the most fatal when treated according to the method we have condemn'd, may be cured with as much certainty and safety as any other disease, by the method just laid down, not to mention the short time wherein the cure is compleated: nor have I ever known a person in the least injur'd by the loss of so large a quantity of blood, which the unskilful seem to apprehend (i).

13. I

freely, for these dilute and feed the blood, whilst they relax the too rigid fibres, and at length resolve the coagulated humours; especially if *nitre* and *camphire* be taken in a proper manner, with which *opium* may be conveniently mixt between whites, to ease the vehemence of the pain. For *opium* is also a powerful relaxer, and is therefore very serviceable in all diseases proceeding from excessive *contraction*, as the *methodists* term it. Hence it checks the too quick circulation of the blood, and admirably promotes the concoction of the morbid matter: and hence a copious sediment in the urine is frequently observed after the use thereof.

In reality a *true pleurisy* no more requires *pectorals*, *linctus*, and the like, than an inflammation of the leg, or the gout itself: much more service is done here by proper fomentations, which frequently relieve the pain, and conquer the disease.——Moreover in a sharp and obstinate pain, the application of cupping-glasses, and scarifications prove highly beneficial, when every thing besides avails little. And in case the distemper be very violent blisters are sometimes applied. See *Huxham de Aere & Mrb. epid. p. 64, 65.*

(i) The general method of cure in those *fevers*, which are attended with *disorders in the organs of respiration*, is so judiciously laid down in a summary way by Dr *Hoadley*, that I must willingly take this occasion of transcribing the whole of what relates thereto; as well to supply any deficiency of our author, as to spread those admirable directions farther, and by this means render them more universally beneficial.

Whenever a physician, says the doctor, finds a patient labouring under the heat, thirst and restlessness of a fever, and at the same time violently afflicted with a pain in his side, cough, difficulty in breathing, or any other of the symptoms, which show the organs of respiration are disordered; he is diligently to inquire into the rise of the whole disease, and carefully to examine into every complaint, in order to form a judgment, whether the disorders in his breathing are owing to the fever, or the fever to them.

If it appear evidently that they arise from the fever; his next enquiry ought to be into the nature and genius of the fever itself, independent of the complaints in breathing; because tho' the violence of the pain, and the great difficulty of breathing, must be regarded and alleviated, yet the cure of the patient must in the end depend upon the cure of the fever.

And as it is known by experience, that there is a great variety in fevers; that some will not abate, but rather grow worse, on bleeding, whilst others will hardly yield to any method without frequent repetitions of it; that some will be greatly increased by

13. I have indeed frequently endeavoured to discover some other method that might prove equally effectual, without bleeding so copiously; *viz.* either (1) by resolving


a warm regimen, which readily yield to a cooling one, whilst others are so low as to require the constant use of the warmest cordials; that some will not bear even the gentlest opening physic, without a very dangerous looseness following upon it, whilst others visibly increase, unless the body be kept open by the daily use of glysters, or small doses of *rhubarb*; that some will give way at once, as it were to a charm, on the application of blisters, whilst others receive no benefit at all, but are rather increased by the pain and fatigue they occasion; &c. As, I say, there is so great a variety in the nature of fevers, and the methods of treatment they will submit to; and as these acute diseases of the organs of respiration often accompany and depend upon each of these kinds of fevers; it is impossible for any one general rule to be laid down for the management of them: but the whole must depend upon the judgment of the physician, formed at the time from the circumstance of every particular patient.

I shall, therefore, in the next place, endeavour to point out the ways we have of judging, in particular cases, which of the different methods of treating these disorders is to be made use of, preferably to the others; whether it be more advisable to proceed by repeated bleedings, by the cool method, by the hot one, or by the application of blisters.

This I am sensible is a very difficult task; and perhaps may not possibly be done with sufficient accuracy, for us ever to frame any certain rule, by which we may judge at once of the nature of the fever, and the particular method we are to pursue: but I make no doubt that there may be some signs pointed out, by which we may at least be directed, when to desist from too obstinate a pursuit of any of them.

For tho' it be confess'd to be difficult for us to determine of what sort the fever is, which attends a pleurisy, (for example) so soon as the violence of the pain, and the danger of the disease requires us to do something; yet if we know that different fevers make it necessary for us to pursue different methods, we may be as certain that they will not all be equally relieved by the first or second steps in the same method; *viz.* they will not all be equally relieved by bleeding: and consequently if bleeding once, or a second time, affords little or no relief; but on the contrary, if the pulse falls, and the strength and spirits flag, whilst the pain in the side, and difficulty in breathing continue as violent as ever, or nearly so; we may be very certain the fever will not admit of this method, and an obstinate repetition of bleeding must be dangerous. This therefore will be a true and proper mark for us to know when to desist.

I have instanced particularly in bleeding, because it is universally allow'd to be the very first step that ought to be taken towards the cure; a step which the violence of the pain, and difficulty of breathing absolutely require, in order to prevent their increasing the fever to a more dangerous degree: and because the operation itself affords us an opportunity of examining into the alterations which

Sect. 6.  ving the humour, or (2) by expelling it by expectoration; but have not hitherto found one of equal efficacy with that above delivered; whereby (notwithstanding the fatal

which the blood has undergone in this fever; and this, together with the feel of the pulse, and the strength and spirits of the patient before and after bleeding, will greatly assist us in determining, whether we are to proceed in the hot or the cold method.

If the patient be of a full habit of body, with strong vessels, and the pulse high, and the spirits good, both before and after bleeding, and the blood of a florid, scarlet colour, with little or no serum, or very fizy; bleeding is evidently to be repeated even to the fourth time, if the symptoms require it, and the cool emollient method to be pursued: and towards the decline of the inflammation, if the continuance of the pain demands it, blisters may be applied, and generally answer their design.

But if the patient is of a weak and low habit of body; if his strength and spirits flag, and his pulse sinks on bleeding; and, together with these symptoms, the pain and difficulty of breathing continue; we have very good reason to believe the loss of more blood may be attended with very dangerous consequences, such as attacks upon the brain, syncopes, &c. and we ought to desist, as was said before.

In these cases the blood is generally of one, or other of these very different kinds: it is either very fizy, or has all its parts broken, dissolved and blended together, and what little *crassamentum* there is, breaks upon the slightest touch, and mixes with the rest.

In the first case, a free use of the *volatile salt*, or *spirit of hartshorn*, the *volatile salt of amber*, or such like, repeated every six, four, or three hours, as occasion requires, together with warm medicines, are of the greatest service, and sometimes give almost immediate relief. Blisters too may in this case be applied at the very first sinking of the pulse and spirits, as they answer the same intention with the other volatile salts. It seems to be from cases of this kind that *goats blood*, and *horse dung*, merely as containing volatile salts, or spirits, have gain'd their reputation for the cure of pleurisies.

In the other case, neither blisters, nor the volatile salts, seem to afford so much relief to the patient, as large quantities of acids; such as distill'd vinegar: together with the warm cordial medicines, as *mithridate*, *confect. RALEIGH*, &c. At the same time, a whey made with the *aqua theriacalis* is a very suitable and beneficial drink for constant use.

These I only offer as hints that may be serviceable in guiding us to the right method of cure; by which I mean the method most agreeable to the nature of the fever which accompanies the disorders in breathing, in these acute diseases: but not with a design that either of these methods should be obstinately followed, when either the pain or the fever does not yield to us. On the contrary they should be constantly vary'd, as the symptoms may require.

But that I may not be thought to have advanced what I have said of the different method of treating these fevers, merely on my

tal prognostic *Hippocrates* hath left us concerning a dry *Chap. 3.*
pleurisy) I recover the patient without waiting for ex-
 pectoration. 14. But

my own authority, and as the result only of my own observation, I shall transcribe a few sentences from the works of Dr *Sydenham*, where he takes occasion to deliver his opinion in general of the manner of judging at what times his own method of curing pleurisies, by quick repetitions of bleeding in large quantities, should not be pursued.

Here the quotation is inserted, as taken from *Seet. V. Chap. V. Par. 9.* of our excellent author's works, to which therefore the reader is referred.

The doctor proceeds: there is a remarkable passage to this purpose in Dr *Tabor's Exercitationes medicæ*, which I shall transcribe likewise, and then conclude.

The passage translated is as follows:

" These particulars are farther verified by a fever of a certain
 " kind, which has prov'd very fatal of late years to the com-
 " mon people of this nation, and ordinarily prevail'd sometimes
 " at one, and sometimes at another season of the year. It was of
 " the pleuritic kind, and began with a considerable chillness and
 " shaking, which the longer they continued, the worse event of
 " the illness they foreshew'd: but these remitting, there imme-
 " diately arose a sharp, and frequently a spasmodic, pain in the
 " right side, a remarkable loss of strength, and a difficulty in
 " breathing, with a great oppression in the *præcordia*, and a
 " heaviness. In general the heat was not intense, the pulse
 " quick or hard, the cough frequent, the thirst considerable, or
 " the belly loose or bound. The urine let fall no sediment, and
 " was of a straw colour. Obstinate watchings continued the di-
 " stemper throughout, but the patient was not delirious. At first
 " the cough was dry, but in about twenty four hours, a thin matter,
 " tinged with blood, was frequently expectorated: but after-
 " wards the cough became more frequent and lasting, the matter
 " being more copious and tougher, till the disease was terminat-
 " ed either by a very plentiful expectoration, or the patient was
 " suffocated by a very viscous phlegm, remaining in the lungs:
 " which generally happened before the *ninth* day, seldom later,
 " and often sooner; especially if bleeding had been unseasonably re-
 " peated. Very few, except robust and plethoric young persons,
 " were observed to bear bleeding without inconvenience; but in
 " such, bleeding twice, and sometimes thrice, in the first days of
 " the disease, did service: but in others bleeding was either
 " wholly to be refrained, or to be perform'd only within a few
 " hours of the attack; and tho' in a small quantity, it proved to
 " be highly dangerous, unless an emetic was soon given, and fol-
 " low'd by the continued use of expectorating medicines. For
 " the disease was of such a nature that, except in plethoric per-
 " sons, the cure was compleated by a plentiful expectoration of a
 " viscous phlegm, which proceeded more easily and successfully
 " by not taking away blood, than losing it. For bleeding in per-
 " sons who were not plethoric generally stopt expectoration, and
 " occasion'd a very difficult respiration, with a rattling in the
 " throat: and observation shew'd that the oftner it was repeated,
 " the

Sect. 6.

*The tendon
sometimes
prick'd by
bleeding.*

*How this
accident is
to be reme-
died.*

14. But as the cure of this disease chiefly consists in repeated bleeding, which, in country towns, is frequently performed by unskilful operators, who often prick the tendon, whereby the limb, and consequently life, is endangered, I judged it not amiss to subjoin here the method of curing this accident.

15. In a puncture of the tendon the patient does not immediately feel pain, but twelve hours after the operation it begins, and is not so much perceived in the orifice lately made, as in the parts reaching up to the arm-pit, where at length the pain fixes, and is chiefly felt upon extending the arm. The part affected does not swell much, the tumor not exceeding a hazel-nut; but an aqueous humour, or *ichor*, continually flows from the orifice, which in reality is esteemed the principal sign fo

a

“ the more all the symptoms were increas'd, and the sooner death
“ was occasioned.”

The author goes on.

There is no doubt, but those physicians, who have a large share of business, and numbers in fevers continually under their care, acquire a sagacity, which is not to be taught to others; by which they can more readily and easily judge of the nature of the fever, and consequently of the proper method of cure, than they who have not the same opportunity. But this is no reason why others should not be upon their guard, and endeavour to form to themselves rules, and hints for observation, as well to acquire that sagacity in time, as to avoid the most dangerous consequences of it at present.

And tho' these hints, that I have offered, may appear too general, they are not however to be totally neglected, or despised, because they are equally serviceable in the treatment and observation of all fevers in general, as well as those in particular which are attended with disorders in the organs of respiration; and because they are every where left to the judgment of the physician to follow, as the different combinations of the symptoms appear most to require.

Indeed the whole design of mentioning them at all was only to prevent too prevailing a custom, of treating the same train of obvious symptoms always in the same manner, without considering to how many different causes they may be owing: a custom, which owes its rise to general names having been given, not only to those obvious symptoms, as if they attended only on one disease, but to the favourite medicines too of some physician in repute for that disease, whence those, who are learned only in receipts, are too apt to prescribe to the name of the disease, and not to the disease itself: and the very opinion which a beginner in the practice of physick may have formed of the skill of the physician he borrows his receipt from, may lead him into a method of cure, which that physician himself would not have pursued at that particular time. See the learned author's lectures on the organs of respiration, from p. 105 to the conclusion.

a punctured tendon. I have known it cured by the following application. Chap. 3.

Take of the roots of white lillies, four ounces ; boil them till they become soft in a quart of milk ; then take oat-meal and linseed flower, of each three ounces ; boil them to the consistence of a cataplasm in enough of the milk, strained from the white lilly roots, and having bruised the roots, mix them therewith for a cataplasm, to be applied hot every morning and night to the part affected (k). An emollient cataplasm.

Q

CHAP.

(k) As a puncture of the tendon will not always yield to this simple application, and is attended with other symptoms besides those mentioned by our author, we shall subjoin a farther account of them, with the best methods of remedying this accident, as they are delivered by the accurate *Heister*.

Wounds of the nerves, or tendons, are chiefly manifested by the following signs. (1) The patient feels so acute a pain, in the moment of the puncture, that he can scarce refrain from crying out aloud, especially if it continues ; (2) this is soon succeeded by a tumor, inflammation, spasms, and a stiffness also of the limb, and these (3) unless seasonably remedied, by exceeding dangerous convulsions, and at length a gangrene, and death in a very short time.

The best method of curing this accident seems to be that which *Ambrose Parey* relates he formerly us'd with success in the cure of *Charles the 9th king of France*. For after the king had signified the pain he felt, the moment the lancet entered his arm, by crying out aloud, *Parey* suspected that some nerve was wounded, and with reason, the arm soon beginning to swell, with most acute pain, and becoming quite stiff. Immediately, therefore, his majesty's physicians with *Parey* directed a method of cure. In the first place oil of turpentine, mixt with rectified spirit of wine, being made warm, was dropt into the wound, then the whole arm was cover'd with a plaister, of *EMPLASTRUM DIACHALCTEOS*, or the vitriol plaister, let down with vinegar and oil of roses, over which the expulsive bandage was applied. Lastly, to compleat the cure, the following cataplasm was carefully applied to the arm, till the pain went off entirely.

Take of the flower of barley and the bitter vetch, each two ounces ; the flowers of camomile and melilot, each two handfuls ; fresh butter, an ounce and half ; boil them in soap lather to the consistence of a cataplasm.

Tho' the arm continued disordered in its natural motion for near three months, yet by degrees it recovered its former strength.

The following also seems a proper method of cure. Instead of a mixture of oil of turpentine and spirit of wine, let balsam of *PERU*, or *Hungary water*, made warm, be dropt into the wound often in a day, and also laid over it, till the pain abates. Simple diachylon, or simple red lead plaister, may be substituted for the vitriol



Of a Bastard Peripneumony.

C H A P. IV.

Of a Bastard Peripneumony.

*Rise of a
bastard pe-
ripneumony.*

A Fever, attended with several peripneumonic symptoms arises every year towards the beginning, but more frequently at the close of winter. It chiefly attacks such as are of a gross habit of body, middle-aged persons, but oftener those who are more advanced in years, and too much addicted to spirituous liquors, especially to brandy. For as the blood of such persons hath been loaden with phlegmatic humours collected in the winter, and is put into fresh motion by the approaching spring, a cough is hereby immediately occasioned, whence these humours hurry to the lungs; and then if the patient happens to live irregularly, and drinks more freely of spirituous liquors, the matter occasioning the cough grows thick, and stops the passage of the lungs, and the fever wastes the mass of blood (a).

2. At

vitriol plaister. But the greatest caution must always be had here, not to leave the wound uncovered, whilst these dressings are preparing. Some sort of plaister, therefore, whatever it be, should be immediately applied, and the whole arm wrapt round with compresses of linnen moistened in *oxyerate*. For by this means the inflammation is not only prevented, or mitigated, but the wound may be defended from the external air, or other pernicious matters. But in persons who are full of blood and juices, 'tis proper, to prevent the inflammation and other threatening accidents, to take away a large quantity of blood immediately from any other limb. *Sculetus*, in his 47th *observation*, highly commends a certain unguent in punctures of the nerves, which he there describes, and in the same place tells us that he has cut across some nerves wounded in this manner, with success. See *Instit. chirurg. Laur. Heist. p. 11. Sect. I. Chap. XI.*

(a) Not many have wrote of the *bastard peripneumony*, and it was known distinctly by few except our author; others having treated of it under the name of a *catarrh*.

The body is oppressed with fat and phlegm during the cold, or winter season, but upon the approach of heat in the spring and summer season, there succeeds a sudden solution of the humours, which are mix'd in the veins, and carried to the right ventricle of the heart, and to the lungs, whence the lungs are surcharg'd with cold and pituitous, but not inflammatory blood; and hence a peripneumony always arises after severe cold weather in the spring.

Heat dissolves the fat, which being afterwards mix'd with the blood, and carried to the lungs, is obstructed in the ramifications of

2. At the beginning of the fever, (1) the patient grows hot and cold alternately, (2) is giddy, and (3) complains of an acute pain in the head when the cough is most troublesome; (4) he vomits up all liquids, sometimes with, and at others times without coughing; (5) the urine is turbid, and intensely red; (6) the blood taken away resembles pleuritic blood; (7) he breathes quick, and with difficulty: if he be advis'd to cough, his head aches, as if it would burst, for so the patient generally expresses himself; (8) a pain of the whole breast accompanies the disease, and (9) a wheezing is heard by the attendants whenever the patient coughs, the lungs not being sufficiently dilated, so that the vital passages seem to be closed by the swelling; whence the circulation is so intercepted, that there are no signs of a fever, especially in gross habits; tho' this may likewise happen from the abundance of the phlegmatic matter, whereby the blood is so furcharged, that it cannot rise to a perfect ebullition.

Its symptoms enumerated.

3. In order to the cure of this fever, I judge it proper, (1) to take away that blood which inflames the lungs, and endangers suffocation; (2) to open and cool the lungs by pectoral medicines; and (3) to abate the heat of the whole body by a cooling regimen. But as, on the one hand, the collection of the phlegmatic matter contained in the veins, and daily affording fresh supplies for the inflammation of the lungs, should seem to indicate frequently repeated bleeding; yet, on the other hand, I learnt, from the most accurate observation, that this practice prov'd very prejudicial in feverish persons of a gross habit, especially if they were past the prime of life; so that bleeding with frequency was equally contraindicated. I therefore had recourse to frequent purging in its stead, which is properly enough substituted, where the patient hath an aversion to copious and frequent bleeding (b).

Intentions of cure to be answered.

4. Accordingly I proceeded in the following manner; I directed bleeding in the arm in bed, and forbid the patient to rise till two or three hours afterwards; because bleeding, which in some measure weakens the whole

The method of cure particularized.

Q 2

body,

of the pulmonic artery; and hence proceeds the cause of a *peripneumony* from humours collected in the body during the winter, and afterwards mixt with the blood. See *Boerhaave, Prax. Med. Vol. IV. de Perip. notha.*

(b) *Boerhaave* advises only a single bleeding: but highly extols laxative glysters, bathing, and blistering. *ib.*

Sect. 6. body, may by this means be more easily borne; for the patient can better bear to have ten ounces taken away in bed, than six or seven when he sits up. The following day I give this purging draught in the morning.

A purging
draught.

Take of fresh pulp of cassia, an ounce; liquorice root two drams; three figs; senna, two drams and half; troches of agaric, a dram; boil them in enough water to leave four ounces of liquor when strained, in which dissolve an ounce of manna, and half an ounce of solutive syrup of roses: mix the whole for a purging draught.

The regi-
men.

5. The next day I usually repeat the bleeding, and interposing a day, I exhibit the purging draught again, which is to be repeated every other day till the patient recovers. On the intermediate days of purging I advise the use of a *pectoral decoction*, oil of sweet almonds, and the like remedies. In the mean time I forbid flesh, and broth made thereof, but especially all spirituous liquors; and instead of these I allow him a ptisan made of barley and liquorice boiled in water for his common drink, or small beer, if he desires it.

6. This is the method of curing the *bastard peripneumony*, caused by an abundance of phlegmatic humours collected in the blood, and, by reason of the coldness and moisture of the winter, thrown upon the lungs; wherein both repeated bleeding and purging are indicated, otherwise than in a *true peripneumony*; which I esteem to be manifestly of the same kind with the *pleurisy*, with this difference only, that a *peripneumony* does more universally affect the lungs. And indeed both distempers are cured by the same method, namely by bleeding chiefly, and cooling medicines.

Wherein
the disorder
differs from
a dry asth-
ma.

7. Tho' the *bastard peripneumony* in some measure resembles the *dry asthma*, both in the difficulty of breathing, and some other symptoms, yet 'tis sufficiently distinguished from it, as being attended with manifest signs of a fever and inflammation, which never appear in the *dry asthma*; but they are much less considerable and apparent in the *bastard peripneumony* than in the *true peripneumony*.

8. It must be carefully remarked, that when this disease attacks such as have been great drinkers of brandy and other like spirituous liquors, it is by no means safe to quit them of a sudden, but they must be left off gradually;

ally; for so sudden a change makes way for a dropfy: and this should be made a standing rule in all other diseases arising from the same cause. Since I have mentioned brandy, I will observe, by the way, that it were indeed to be wished, either that it was wholly forbid, or at least used only to recruit the spirits, and not to occasion a stupefaction; or that it was totally prohibited to use it internally, and only allowed to be applied externally by surgeons in fomentations, to digest ulcers, or to heal burns. For, in the last case, it excells all other applications hitherto known, as it preserves the *cutis* from putrefaction, and on this account speedily finishes the cure, without waiting for *digestion*, which runs thro' its stages very slowly. For this purpose let a piece of linnen, dipt in *brandy* or *spirit of wine*, be immediately applied to the parts scalded with hot water, burnt with gun-powder, or the like, and renew the application between whiles, till the pain ceases, and afterwards apply it only twice a day (c).

Spirits of
wine extel-
lent in
burns.

C H A P. V.

Of the Rheumatism.

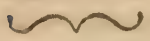
1. **T**His disease happens at any time, but especially in *Autumn*, and chiefly affects such as are in the vigour of life. 'Tis generally occasioned by exposing the body to the cold air, immediately after having heated it by violent exercise, or some other way. It begins (1) with a chilness and shivering, which are soon succeeded (2) by heat, restlessness, thirst, and the other concomitants of a fever; (3) in a day or two, and sometimes sooner, there arises an acute pain in some one or other of the limbs, especially in the wrists, shoulders and knees; which, shifting between whiles, affects these parts alternately, leaving a redness and swelling in the part last affected.

The rheu-
matism
how caused,
and when
it arises.
Its sym-
ptoms.

Q 3

(c) This is only to be understood of slight burns, in which case oil of turpentine is a good remedy, as is also a decoction of *oxycrate with salt*, applied warm to the part, and often renewed. The approaching the part to the fire, and holding it as long as the patient can bear it, is very useful here, as it not only resolves the stagnant blood, but likewise prevents the rise of blisters, and other bad symptoms. See *Heist. Instit. chirurg. P. I. lib. iv. Chap. XV. p. 331.*

Sect. 6.



affected. (4) In the beginning of the illness the fever and the abovementioned symptoms do sometimes come together; but the fever goes off gradually, whilst the pain continues, and sometimes increases, occasioned by the derivation of the febrile matter to the limbs; which the frequent return of the fever, from the repulsion of the morbid matter by external remedies, sufficiently shews.

Often taken
for the
gout.

A stubborn
but not a
dangerous
disease.

2. This disease, when unattended with a fever, is frequently taken for the *gout*; tho' it differs essentially therefrom, as will easily appear to those that are thoroughly acquainted with both diseases; and hence it is perhaps that physical authors have not mentioned it, unless indeed we esteem it a new disease (*a*). But however this be, it is at present very frequent, and tho' when the fever is gone off, it seldom proves fatal, yet the violence of the pain, and its long continuance, render it no contemptible disease. For, in case of wrong management, it frequently remains not only several months, but some years, nay even during life; tho' in this case it is not equally painful, but has its periodical returns, like the *gout*; and the pain may possibly go off spontaneously after it has been of very long standing. But in the mean time the patient is deprived of the motion of his limbs during life, the joints of the fingers being contracted inwards, with stony concretions as in the *gout*, which rather appear in the internal parts of the fingers than the external, whilst the appetite may be very good, and the general health not amiss.

3. There

(*a*) In the *rheumatism* the muscles, together with their common membrane, and tendons where they are inserted into the bones, are affected with a violent pain and spasms in the limbs and other parts of the body; but in the *gout* the tendinous nervous ligaments, whereby the bones are joined together, inasmuch as they unite with the *periosteum*, are more vehemently affected. But as in a beginning *gout* the pain is seated more in the surface of the ligaments; so in an obstinate one, the vitiated humour, which occasions the pain, is more deeply seated, and possesses the space between the cavities of the joints in a greater degree. There is also this difference between the *gout* and *rheumatism*; the *gout* returns with greater frequency, gives more pain, continues longer, and is harder to be cur'd; but the *rheumatism* sometimes seizes a person only once or twice during his life, and does not last so long, and is more easily cured. The pain likewise often differs in the two diseases; for in the *rheumatism* 'tis more tensive, heavy, join'd with cold, without any remarkable tumor and redness; but in the *gout* it is tearing, pungent, and as it were threatens the bursting of the part affected, which appears to be much swell'd and red.

3. There is another species of this disease, tho' tis not generally esteemed of this kind, which may properly be called a *rheumatic lumbago*. It is a violent fixt pain of the loins, reaching sometimes to the *os sacrum*, and resembling a nephritic paroxysm; only the patient does not vomit. For, besides the intolerable pain near the kidneys, the whole conduit of the ureters, even to the bladder, is sometimes affected with the same, tho' in a less degree. And I have been formerly led into an error hereby, as imagining it to arise from some gravel lodged in those parts; whereas, in reality, it proceeds from the peccant and inflamed matter of the rheumatism, which affects only those parts, leaving the rest of the body free. Unless this acute pain be removed in the same manner as the former species, it continues as long, and proves equally violent; so that the patient cannot lie in bed, but is forced either to leave it, or sit upright therein, and be perpetually moving his body backwards and forwards.

Another
species of
this disease.

4. Since both the kinds of this disease seem to arise from inflammation, as appears from their concomitants just mentioned, and especially by the colour of the blood taken away, which exactly resembles that of persons in a pleurisy, which is universally allowed to be an inflammatory disease; so I judge that the cure ought to be attempted only by bleeding, the heat of the blood being in the mean time abated by cooling and inraffating medicines, along with a proper regimen (b).

Both the
kinds caus-
ed by in-
flammation.

5. Accordingly as soon as I am called, I direct ten ounces of blood to be immediately taken away from the arm of the side affected, and prescribe a cooling and inraffating julap, nearly after the following manner.

How to be
treated.

Q. 4

Take

(b) In order to the cure of this distemper, we are to consider whether it be recent, and proceeds from a fulness of blood, or whether it has been of some standing, and proceeds from a collection of foul serum; and according to these circumstances our indications are to be directed.

Bleeding in the beginning is the speediest remedy in the former case; but in the latter it is carefully to be avoided, especially in weakly and cold constitutions, and in persons in years.

Mild diaphoretics, mix'd with nitre, given frequently in moderate doses, do singular service in both cases: gentle laxatives are also extremely proper; and warm bathing in the decline of the disease.—In the cold rheumatism nothing excels blistering. Opia-tes are necessary if the pain be very violent.

Sect. 6.

*A cooling
julap.*

Take of the distilled waters of lettice, purslain, and water-lilly, each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce; mix them together for a julap, of which let the patient drink at pleasure; or of the emulsion above set down in the cure of the pleurisy.

*The regi-
men.*

To ease the pain, I order a cataplasm, prepared of the crumb of white bread, and milk tinged with saffron, or a cabbage leaf to be applied to the part affected, and frequently renewed (c). With respect to diet, I enjoin a total abstinence from flesh, and even the thinnest flesh broths; substituting in their place, barley-broth, water-gruel, panada, and the like. I allow only small beer for drink, or which is more proper, a ptisan prepared of pearl barley, liquorice, sorrel roots, &c. boilded in a sufficient quantity of water: and I advise the patient to sit up some hours every day, because the heat, which proceeds from lying always in bed, promotes and augments the disease.

*Bleeding
how often to
be used.*

6. The next day I repeat the bleeding in the same quantity, and in a day or two after, as the strength will allow, I bleed again; then interposing three or four days, as the strength, age, constitution of the patient, and other circumstances indicate, I bleed a fourth time, which is generally the last, unless too hot a regimen has preceded, or heating remedies have been exhibited without necessity. But the use of opiates requires more frequent bleeding; and therefore, tho' the pain be ever so violent during the whole course of the disease, yet when I intend to effect the cure solely by bleeding,

*Inconveni-
encies at-
tending the
use of opi-
ates.*

(c) The following liniment from Hoffman, with little variation, is preferable for this purpose.

Take of hungary water, two ounces; balsam of Peru, two drams; old Venice treacle, a dram; let them infuse together for some time; then strain off the tincture, to which add tincture of saffron and castor, of each two drams; oil of nutmegs, half a scruple; camphire, a dram: mix them together, and anoint the parts affected frequently therewith.

But if there remains a stiffness and numbness of the part, occasioned by the long continuance of the pain, the following liniment has been frequently found to do admirable service.

Take of human fat, two ounces; balsam of Peru, and oil of cloves, two drams: mix them together, to be us'd as the former.
Med. rat. syst. tom. iv. pars 2^{da}, p. 444.

bleeding, I judge it highly necessary to refrain from opiates, because the disease is fixed thereby, and does not yield so readily to bleeding, so that where such medicines are given too frequently, bleeding must in consequence be oftner repeated than is otherwise necessary. Besides, in the height of the disease, they do not answer the expectations we have conceived of them.

7. Whilst the abovementioned remedies and regimen are carefully continued, I inject glysters made of *milk* and *sugar*, between times, on the intermediate days of bleeding; earnestly recommending the exact observance of these directions, for at least eight days after the last bleeding; and then I prescribe a gentle purging potion to be taken in the morning, and in the evening a large dose of *syrup of white poppies* in *cowslip-flower water*; whereby a check is put to the tumultuary motion of the blood, which might otherwise endanger a relapse. This being done, I allow the patient to return by degrees to his customary way of living, in relation to diet, exercise and air; but at the same time caution him to refrain, for a considerable time, from wine and all spirituous liquors, salt or high seasoned flesh, and in general from all food of difficult digestion.

*Purging
when pro-
per.*


8. After having repeated bleeding, as above specified, the pain is greatly abated, tho' it does not go quite off; but as soon as the strength returns, which bleeding had greatly impaired, the symptoms will vanish, and the patient recover perfectly, especially upon the approach of the following season of the year, which will be more conducive to recruit the strength, than that wherein he was first attacked with the disease.

9. But tho' this, or a similar method, seasonably us'd in the beginning of the disease, does generally prove successful; yet it frequently happens, when the cure is attempted by a contrary procedure, that the patient is severely afflicted during life with flying pains, which are sometimes violent, and at others more gentle; whereby the unskilful are easily deceiv'd, and they are commonly reckoned symptoms of the scurvy. And here by the way, to speak my sentiments freely, I shall add, that tho' I do not at all doubt that the *scurvy* is to be met with in these northern countries, yet I am persuaded it is not so frequent as it is generally supposed to be; for most of those disorders we term *scorbutic*, are

*Mischiefs of
a contrary
method.*

*The scurvy
less common
than it is
supposed to
be.*

the

Sect. 6.  the effects of diseases going to be produc'd, but not yet existing, as not having hitherto assumed a certain form of appearance; or they are the remains of some disease imperfectly cured, whereby the blood and juices are vitiated. Thus, for instance, in those bodies wherein a matter suited to produce the gout is newly generated, but not yet thrown upon the joints, there appear various symptoms, which occasion us to suspect the *scurvy*, till the formation and actual appearance of the *gout* remove all doubt concerning the distemper.

10. Neither are we ignorant that as many symptoms, resembling the *scurvy*, afflict gouty persons after the fit of the *gout* is over; namely, when an unseasonable use of evacuations, or the advanced age of the patient, or some other cause hath obstructed nature, so as to have render'd her unable to throw off all the gouty matter upon the joints; which being retained, and yet of no use, vitiates the mass of blood, and occasions many dangerous symptoms. And this is to be understood not only of the *gout*, but also of a beginning *dropsy*. Tho' 'tis proverbially said, *that where the scurvy ends, the dropsy begins*; yet this maxim is only to be understood in this sense, that as soon as the *dropsy* shews itself by manifest signs, the preconceived opinion of the *scurvy* falls to the ground. And the same may be maintained of several other chronic diseases, which are either yet growing in the body, and accordingly have not assumed any certain form of appearance; or of those which are partly conquered, but not totally cured. And in reality, unless this be granted, the name of the *scurvy*, as it does at this day, will obtain universally, and comprize most diseases. Whereas if we make an accurate search into the secret causes of every disease, and strip it of the disguise of those irregular symptoms which serve to conceal it, we shall soon discover its species, and easily reduce it to its proper class. Moreover, the method whereby these diseases are to be cured, must not be suited to those irregular symptoms, but to the individual disease, of whatever kind it be, as if it were perfectly formed, and actually existed.

Frequent
bleeding
improper in
an invete-
rate rheu-
matism.

11. But 'tis here to be observed, that when the *rheumatism* hath taken deep root by a continuance of some years, 'tis improper to repeat bleeding at such short intervals, as in the beginning of the disease; and better

to

to interpose some weeks between the operations. By this means the morbid matter will either be quite expelled, or at least in so great a degree, that the remains of it may be carried off entirely, by an issue made in one of the legs, and exhibiting a proper quantity of some volatile spirit every morning and evening in canary.

12. But tho' there is a remarkable difference between the true *rheumatism* and the *scurvy*, as intimated above, it must nevertheless be owned that there is another species of the *rheumatism*, which is near a-kin to the *scurvy*; for it resembles it in its capital symptoms, and requires nearly the same method of cure; and therefore I call it a *scorbutic rheumatism* (d). The pain sometimes affects one and sometimes another part, but it does rarely occasion a swelling, as in the other species, neither is it attended with a fever. It is also a less-fixed pain, and accompanied with irregular symptoms: sometimes it affects one limb and sometimes another, sometimes it only attacks the internal parts, and causes sickness, which goes off again upon the return of the pain of the external parts. In this manner the patient is alternately afflicted, and the disease proves of long duration, like those distempers which are esteem'd most chronic. It chiefly attacks the female sex, and men of weak constitutions; so that I should have concluded it ought to be referred to the tribe of hysteric disorders, had not repeated experience taught me that it would not yield at all to hysteric remedies.

*Ascorbutic
rheuma-
tism.*

13. Such likewise as have gone thro' a long course of the *Peruvian bark* are subject to this disease, which, by the way, is the only ill effect I have ever observed from the use of this medicine. But however it be, this disease, whether it proceeds from this or any other cause, is easily conquered by the use of the following remedies,

(d) *Hoffman* also observes that there is a *scorbutic rheumatism*, in which the whole mass of the lymph and serum is vitiated with foul, excrementitious, sulphureous, saline, sharp particles, which occasionally manifest themselves by different kinds of eruptions; it proceeds from unwholesome, hard, salt diet, an idle and sedentary life, the common use of a heavy, vapid air, and long continued grief; and hence the inhabitants of sea-ports are generally most subject to it.

Diluent and demulcent remedies taken freely, and continued a long time, are chiefly proper here: mineral waters drank with-milk, along with a convenient regimen, are likewise of great efficacy in curing this species of the disease.

Se^{ct}. 6. dies, which I should have concealed had I not prefer'd the good of mankind to my private interest: for by the help of these alone, I have cured several who were afflicted in the manner I have described, when repeated bleeding, cathartics, a milk diet, the testaceous powders, &c. availed not at all.

The scorbutic electuary.

Take of the conserve of garden scurvy-grass, two ounces; conserve of wood sorrel, an ounce; compound powder of wake-robin, six-drams; syrup of oranges, enough to make the whole into an electuary; two drams of which is to be taken three times a day, for a month, drinking after it three ounces of the following distill'd water.

The scorbutic water.

Take of garden scurvy-grass, eight handfuls; of water-cresses, brook-lime, sage and mint, each four handfuls: the peel of six oranges; nutmegs bruised, half an ounce; infuse them in six quarts of mum, and draw off only three quarts for use, in a common still.

The dose of the compound powder of wake-robin must by no means be diminished.

C H A P. VI.

Of the erysipelatous Fever.

When the erysipelatous fever arises, and whom it chiefly affects.

I. **T**HIS disease affects every part of the body, but especially the face, and it happens at all times of the year, but chiefly at the close of summer, at which time it frequently attacks the patient whilst he is abroad (a). (1) The face swells of a sudden, with great pain

(a) Haister observes that the *erysipelas* is an inflammation which arises in the *epidermis*, or scarf-skin, and in the fat contiguous thereto, and sometimes spreads very considerably, with redness, heat and pain. As soon as the part affected is press'd with the finger, it whitens remarkably; but upon taking off the finger, becomes red, as before. It ofteneft attacks the arms and feet, sometimes also the neck, head, shoulders, or face, sometimes the nose and other parts. It mostly begins with chilness and shivering; whence there immediately arises such an heat, as is usually felt in burning fevers: and hence it is call'd both by the ancients, and the people of the lower Saxony, *ignis sacer*, or *St Anthone's fire*.

It proceeds from the same causes as all other inflammations: but chiefly from sudden cold succeeding a great heat or sweat; obstructed

pain and redness, and (2) abundance of small pimples appear, which, upon the increase of the inflammation, often rise up into small blisters, and spread considerably over the forehead and head, the eyes in the mean time being quite closed by the largeness of the tumor. The country people term it a *blast*, or *blight*; and in reality it differs little from those symptoms which accompany the wounds made by stings of bees, or wasps, excepting only that there are pustules. And these are the signs of the common and most remarkable species of the *erysipelas*.

2. But whatever part is affected by this disease, and at whatever time of the year it comes, a chillness and shivering, unless they preceded a day or two before, as it sometime happens, generally attend this inflammation, with thirst, restlessness, and other signs of a fever. As the fever in the beginning occasioned the pain, swelling, and other symptoms, (which increasing daily sometimes terminate in a gangrene) so in the course of the disease, these symptoms greatly conduce to the increase of the fever, till both are taken off by proper remedies.

3. There is another species of this disease, tho' it happens less frequently. This attacks at any time of the year, and is mostly owing to too free an use of subtile attenuating wines, or some similar spirituous liquor. It begins with a slight fever, which is immediately succeeded by an eruption of pustules, almost over the whole body, resembling those occasioned by the stinging of nettles, and sometimes they rise up into blisters, and soon after disappear, and lie concealed under the skin, where they cause an intolerable itching, and after gentle scratching come out anew (b).

4. In

obstructed perspiration; drinking too strong liquors, and surcharging the stomach; and, lastly, a remarkably hot and sharp blood: all these things being so constituted that they easily thicken the blood, and cause it to stagnate; See his *Institut. chirurg. P. I. Lib. IV. Cap. VI. p. 290.*

(b) Practitioners generally divide the *erysipelas* into two kinds; the *true* and *simple*, and the *bastard* and *scorbutic erysipelas*. The former readily yields to proper internal and external remedies, and is only seated in the surface of the skin; but the latter is more chronic, and by reason of the foulness of the juices lies deeper, is hard to be cured, and easily degenerates into malignant ulcers. This last, therefore, is again subdivided into that which is attended with ulceration, and that without, of which the former is more

Sect. 6.

*The erysi-
pelas how
to be treat-
ed.*

4. In order to the cure I conceive (1) that the peccant matter, which is mix'd with the blood, must be evacuated in a proper manner, (2) the ebullition of the blood

more dangerous, often proves of long continuance, and difficultly admits of being healed. Moreover the *erysipelalous fever* is sometimes *idiopathic*, or an original disease; sometimes *symptomatic*, and a secondary disease. A symptomatic *erysipelas* likewise frequently succeeds an *anasarca*, the *ascites*, and an inveterate yellow and black jaundice, and suddenly destroys the patient. It is also often complicated with wounds of the nervous parts, especially of the *cranium* and its membranes, and fractures of the bones, in which cases there is danger. *Hoff. Med. rat. syst. tom. iv. par. 1^{ma} p. 304, 305.*

Under the same head he observes, with respect to the prognosis; that when the *erysipelas* comes out suddenly, and with little commotion, in a good habit of body, and neither attacks a principal part, nor the nervous parts, it is little dangerous, but that by means of a freer perspiration, and the exhibition of proper remedies, the swelling sinks by degrees in a day or two, the heat and pain vanish, the rosy colour is chang'd into a yellow, the *cuticula* bursts, and scales off, and the disease is happily terminated. Moreover it sometimes exhibits a manifest mark of health; other diseases, especially a *convulsive asthma*, and a *convulsive colic*, having been taken off by an *erysipelas* succeeding them. But where it is large, deeply seated, in a remarkably foul habit of body, and attacks an exquisitely sensible part, 'tis not void of danger. For either the redness occasions a lividness and blackness, and soon degenerates into a fatal mortification, or the inflammation does not admit of being discuss'd, but suppurates, and causes ulcers of a bad kind, fistulas, and a gangrene. In foul habits, and in such as are partly sanguine and partly phlegmatic, the *erysipelas* leaves behind it a large tumor of the foot, so that the ankle appears to be three times bigger than it naturally is, and this swelling is very difficultly remov'd. But those who die of this disease, generally perish by a fever, which is mostly join'd with a difficulty of breathing, sometimes with a *delirium*, sometimes with drowsiness, and death generally happens within the *seventh* day.

It is render'd exceeding dangerous by improper treatment, and frequently mortal. I have known the *erysipelas* strike in after taking a vomit, and a strong purgative, whence an inflammation of the stomach, and death have followed. Bleeding likewise has sometimes struck it in, and render'd it wandering with much greater inconvenience. I have also observed that after being repell'd in the leg, by a topic made of *camphire*, *red lead*, and *bole*, it has been succeeded by a high fever, an intolerable pain of the stomach, a great difficulty of breathing, bilious vomiting, loss of strength and appetite, which have not gone off, till the *erysipelas* had been invited back to its former seat by a blister, and antispasmodics and mild sudorifics given inwardly. And I certainly know that an *erysipelas* of the head, having been treated by repellent, cooling, binding, or too spirituous applications, and camphorated liniments, has brought on a *vertigo*, lethargic disorders, a quinsy, *delirium*, and a palsy of the tongue; which evils

blood check'd by cooling remedies, and lastly (3) that the matter thrown out and fixt upon the skin be discuss'd (c). To answer these purposes, as soon as I am call'd,

evils have frequently prov'd fatal to persons in years, and scorbutic habits. Cooling, and oleous applications, such as are made of lead, spirituous liniments, and those containing much camphire, equally occasion the *erysipelas* to terminate badly, and make it degenerate into ulcers or a bad kind; as appears from *Hildanus Cent. I. obs. 82* *Moinichen, obs. II. p. 245*. *Timæus a Guldenklec, lib. VI. cap. XXIII.*

(c) The intentions of cure, according to *Hoffman*, are, (1) by no means to depress the fever, unless it be too high, and if too low, to raise it; (2) to soften the subtil, caustic matter lodg'd in the nervous parts; and (3) to resolve the inflammatory stagnation of the putrid and caustic lymph in the external parts, and make way for its perfect expulsion.

'Tis a standing rule in practice, he observes, that in acute and eruptive fevers, the body is always to be kept in a gentle breathing sweat, that so an equable motion of the blood may be continued to the surface thereof, and the excrementitious matter continually carried with it, expell'd. Hence this is likewise justly to be observed in the *erysipelas*, as well with respect to the whole body, but chiefly to the part affected, whereby the pain is mitigated, and the discussion powerfully promoted.

The utmost caution is requir'd in the use of externals, to prevent their doing mischief, either by striking in the *erysipelas*, or changing it to an ulcer. Besides, as most persons have a peculiar idiosyncrasy, or a certain specific and individual sensibility, which principally prevails in the skin, as a nervous part; so for this reason also greater circumspection is requir'd in applying topics in disorders of the skin, every particular person not being able to bear all kinds of applications. For I have often observed in an *erysipelas* of the breast, upon applying an innocent plaister, which had been experienced a hundred times in others, that the inflammation and pain in a short time have rather been increased thereby, which, upon taking it off, have immediately abated. Hence it is safest to apply only paregoric species, made of *flowers of camomile, elder, and melilot, liquorice root, and bean flower*, in form of a bag, or powder.

But if, notwithstanding the use of efficacious internal and external discutients, the swelling remains, the redness begins to go off, and a blueness to come on, the pain be more deeply seated, and seems to extend to the *periosteum*, the *erysipelas* tends to suppuration. Then, therefore, we are to have recourse to such things as promote suppuration, yet so as at the time to check the putrefactive corruption. *Simple diachylon*, with an addition of a sufficient quantity of *camphire* and *saffron*, or *Barbette's lead plaister with soap*, covering it with balsamic epithems, which prevent corruption, are very useful applications. When the matter lies deep, and possesses but a small space, the tumor is to be opened with a lancet, and the matter to be discharged successively, but not all at once. But lest the abscess, especially in glandulous places, should, after the discharge of the matter, degenerate into a fistulous and malignant

Sect. 6. call'd, I direct a sufficient quantity of blood to be taken away from the arm, which generally resembles the blood of pleurities. The next day I give my common purging potion, and exhibit a paregoric draught at bed-time, in case it has operated briskly, *e. g. syrup of white poppies in cowslip flower water*, or something of the same kind. After purging, I order the part affected to be fomented with the following fomentation.

The emollient fatus.

Take of the roots of marshmallows and lillies, each two ounces; the leaves of mallows, elder, and mullein, of each two handfuls; the flowers of melilot, the tops of St John's wort, and the lesser centaury, of each one handful; linseed and fenugreek seed, each half

malignant ulcer, a balsamic liquor should be injected, made of *tincture of the flowers of St John's wort, essence of balsam of Peru, myrrh, and some drops of spirit of turpentine.*

When the *erysipelas* is very large, and deeply seated, and threatens a mortification, which is known by the colour inclining to a brownish red, and the continuance of the symptoms after the expulsion, then, besides such internals as check inflammation and putrefaction, especially *nitre*, with a small quantity of *camphire*, spirituous and strengthening externals, made of *lime-water, camphorated spirit of wine, wine vinegar with litharge*, mix'd also with *essence of scordium*, and *myrrh*, are frequently to be applied to the part affected, pieces of linnen several times doubled being dipt therein.

Bleeding in the *erysipelas* is sometimes hurtful, sometimes serviceable. If an erysipelatous fever attacks plethoric persons, or such as are accusom'd to drink spirituous liquors, bleeding in the arm is proper in the first stage of the distemper: for by this means a freer circulation is occasioned, and the expulsion of the matter to the skin promoted. It is so much the more advantageous if the *erysipelas* seizes the head, as it is then preventive of the dangerous symptoms. Sometimes instead of bleeding 'tis advisable to apply cupping glasses between the shoulders. But always after bleeding care should be had to keep up a free and equable perspiration.

In a *scorbutic erysipelas*, of long standing, such medicines as purify the blood, gentle laxatives, and sudorifics are to be us'd; purging at first for some days, and afterwards exhibiting sudorifics and diuretics for some time, and repeating them alternately a number of times. And the patient's common drink should be a smoothing decoction, made of mucilaginous roots and woods, along with bitters, especially *succory and dandelion roots, and raisins*.

To prevent the return of this disorder, which is dangerous; the best method is, after having prepar'd the body by bleeding, or laxatives, or both, as there is occasion, to go through a course of some proper mineral water, under a convenient regimen. But where this cannot be complied with, bleeding, especially spring and autumn, seasonable purgation, and such medicines as cleanse the blood, along with a proper regimen, as to diet, exercise, &c. are commodiously substituted in its stead.

half an ounce; boil them in enough water to leave three pints, strain off the liquor, and when 'tis used add two ounces of spirit of wine to every pint thereof. Let the part affected be fomented twice a day, with soft flannels dipt in this fomentation hot, and wrung out, and after fomenting bathe it with the following mixture.

Take of spirit of wine, half a pint; Venice treacle, two ounces; long pepper and cloves, reduced to powder, of each two drams; mix them together: cover the part affected with brown paper, moistened with this mixture (d).

The mixture.

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5. Moreover

(d) The present practice does not authorize so hot and fiery a medicine in this case; nor, in the course of my reading, have I met with so warm a one prescrib'd by any other author: it should rather seem to increase the pain and inflammation than mitigate them, at least in a simple erysipelas. Heister recommends digestive powders, made of flowers of elder, liquorice root, prepar'd chalk, cerufs, and myrrh, mix'd together in equal quantities, with the addition of a little camphire, to be applied warm to the part, included in blue, or blotting paper, or a piece of linnen. To this he adds MYNSICHT's powder against the erysipelas, observing that 'tis not only frequently us'd by the apothecaries, but highly effectual. Amongst the liquid medicines he observes that camphorated spirit of wine, alone, or mix'd with saffron and treacle, and applied warm, blotting paper, or linnen compresses being dipt therein, is eminently serviceable here; and, on his own experience, tells us that lime-water, and camphorated spirit of wine, mixt together, and applied in the same manner, is an excellent remedy. See Heist. Institut. chirurgic. p. I. lib. iv. cap. vi. p. 292.

I once saw an instance of as violent and extensive an erysipelas, as, perhaps, ever happened. The case was this—A middle-aged person, of a hot and bilious constitution, and somewhat inclin'd to corpulency, having for some time lost the use of his arm, from what cause I do not remember, was advis'd to apply a stimulating warm fomentation, and a warm nervous liniment there-to, in order to recover its motion. But soon after using these remedies, which avail'd not at all in relieving the complaint, an erysipelas arose in the part, and from thence gain'd one shoulder, and one side of the face, and afterwards extended all over one side of the neck and trunk, both before and behind. The parts affected were so exceeding tender and painful, as not to abide the most emollient and anodyne fomentation that could be contriv'd, and a high fever with great thirst and restlessness accompanied the disorder; which however yielded, sooner than was expected, to repeated bleeding, gentle purging, diluting liquors drank freely, nitrous medicines, and emollient cataplasms, often renew'd, made chiefly of elder bark, boil'd in milk, with the addition of a small quantity of ointment of elder.

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Sect. 6.

The regi-
men.

5. Moreover I order the patient to sup only barley-broth, water-gruel, and eat roast apples, to drink small beer, and to refrain from bed some hours every day. By this method the fever and other symptoms are generally soon taken off; if not, I repeat bleeding, and sometimes 'tis necessary to bleed a third time, interposing a day between each operation, that is, if the blood be greatly vitiated, and the fever high. On the intermediate days of bleeding, I order glysters made of *milk* and *syrup of violets*, and cooling julaps made of the *distilled water of water-lillies*, &c. as delivered in the cure of the *Rheumatism*, to be used very often in a day. But a single bleeding, and a purge generally effect the cure, provided they be used in time. The same method is to be used in that species attended with itching and a redness, and resembling the stinging of nettles; only, external applications are less necessary here.

Some other
eruptive
disorders
require a
different
treatment.

The method
described.

6. I shall observe here, by the way, that tho' not only this disease, but the greater part of such as affect the skin, and are attended with some sort of eruption, in case they are of the chronic kind, readily yield to this method, and accordingly go off in a short time by repeated bleeding and purging; yet there are others that require a very different treatment. For neither the evacuations just mentioned, how frequently soever repeated, nor testaceous powders exhibited, at all avail to sweeten the blood, when a noxious, recrementitious matter lies deep in the skin, and cannot be removed but by such remedies as strengthen the tone of the blood, and are consequently proper to open the pores: and therefore in the *violent itchings*, and inveterate eruptions of the skin, of that kind, I have had recourse to the following method with success.

The sudori-
fic bolus.

Take of Venice treacle, half a dram; electuary of the egg, a scruple; Virginian snake-root, finely powdered, fifteen grains; oriental bezoar, five grains; syrup of candied citron, enough to make them into a bolus; which is to be taken every morning, and at bed-time, for one and twenty days, drinking after it six spoonfuls of the following julap. Take

It was hoped that the considerable inflammation, which happened here, would have rous'd the natural heat of the arm, and in some measure restor'd its former motion, but nevertheless it remain'd as motionless as ever.

Take of the distill'd water of carduus benedictus, six ounces ; plague and treacle water, of each two ounces ; syrup of cloves, an ounce ; mix them together. *Chap. 6.*
The cordial
julep.

7. The patient should sweat an hour or two every morning after taking the medicine, or rather promote a plentiful perspiration in bed, for the same space of time, by covering himself with a greater quantity of clothes than usual. This course being over, if the eruption still continue, let the parts affected be anointed with the following liniment.

Take of the ointment of sharp-pointed dock, two ounces ; pomatum, an ounce ; flowers of sulphur, three drams ; oil of rhodium, half a scruple : mix them together for a liniment. *The cleans-
ing lini-
ment.*

But the medicines above prescribed must by no means be used before bleeding and purging have duly preceded ; which, tho' they do not effect a cure when used alone, are however preventive of a fever, which might otherwise arise from the use of such hot medicines. *To be pre-
ceded by
bleeding
and purg-
ing.*

8. There is another kind of eruption, tho' less frequent, wherein no evacuations avail. This, tho' it sometimes appears in other parts, generally affects the breast, and fixes itself in some certain place ; it rises very little, if at all, higher than the skin, and appears like a broad spot, or a kind of branny scurf, of a yellowish colour. Whilst this spot keeps out, the patient continues pretty well, but when it vanishes, as it frequently does, a slight sickness succeeds, the urine becomes more turbid, and of a deeper red, but somewhat inclining to yellow. This disorder, after using general evacuations, is to be treated in the same manner as the *stubborn itch* abovementioned ; only it must be remember'd that the use of wine, and flesh of easy digestion, must by all means be indulg'd, all coolers being rather detrimental than serviceable. In this manner, is this last kind of eruption cured ; but sometimes it proves so inveterate, as only to yield to a long continued course of chalybeat waters (e). *An uncom-
mon erupti-
on, and its
cure de-
scrib'd.*

R 2 C H A P.

(e) Amongst the peculiar kinds of the *erysipelas*, there is one, which few of the moderns are acquainted with, and the ancients have also taken little notice of: it is called by *Pliny*, *Zoster*, and by

Of the Quinsey.

C H A P. VII.

Of the Quinsey.

When the
Quinsey
happens,
and whom
it chiefly
attacks.

1. **T**His disease comes at any time of the year, but especially between spring and summer; it chiefly attacks the young and sanguine, and also red-haired persons (a). It begins (1) with a chiliness and shivering,

us *Zona*. It appears with dangerous symptoms, and surrounds the body, just above the navel, like a girdle, and is generally several fingers broad, and attended with very violent heat, and an eruption of sharp pustules, burning like fire. It is a pernicious disorder, and sometimes proves fatal. But that is the most malignant, of all the kinds, which comes out under the breast, and in the parts near the heart, or in the hands, and other very sensible parts, in old persons, of a very foul habit of body, after a great loss of strength, and sometimes also in malignant and pestilential fevers: it soon becomes livid, and at length black, and death speedily ensues. *Platerus* describes this species in the second vol. of his works, p. 23, under the name of the *broad spot*. *Langius* in his 110th epistle shews how dangerous the *Zone* is, by two instances: and *Tulpius* in his *Medicinal observations*, book 3d, chap. 49. describes a disorder, which seems to be the same with this, under the name of a *herpes exedens* of the *præcordia*. It has been conquered in fourteen days, by mild diaphoretics taken internally, and oil of eggs applied to the part affected.

(a) *Hoffman* defines this disorder, “an inflammation of the throat, accompanied with a burning pain, swelling, redness, a difficulty of breathing and swallowing, along with a fever, arising from a stagnation of the blood, or a viscous, sharp serum in the blood, or lymphatic vessels, and not void of danger.”

In order to gain a just knowledge of this disease, its seat is chiefly to be noted; which is in the throat, especially in those parts which form the *pharynx* and *larynx*: and these are very numerous, and of great use and sensibility. For instance, the root of the tongue, with the *os hyoides*, the passages of the nostrils which open into the mouth, the upper part of the *œsophagus*, the internal and external muscles of the *pharynx* and *larynx*, which are thirteen in numbers, the large and small glands of the *tonsilla*, the muscles which move the jaws, and the fine ramifications of the blood, lymphatic vessels, and nerves.

According, therefore, as the inflammation attacks any of these parts, it is more or less violent, and acquires also different names. The most ancient, general division of the quinsey is, into the internal and external kind, or the manifest and latent kind. The former is seated in the internal, nervous and muscular teguments of the throat; and therefore no tumor and inflammation are perceived externally in the neck, nor in the mouth, but an internal heat, and an acute fever, and, in case it be very severe, a difficulty

ing, (2) a fever succeeds, and (3) immediately after a pain and inflammation of the *fauces*, which, without speedy relief, hinder deglutition, and prevent breathing thro'

Chap. 7.

Its sym.
ptoms.

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faculty both of breathing and swallowing, and much danger accompany it. But the external species rather extends towards the eyes, and chiefly possesses the external muscular and glandulous parts, the almonds, the root of the tongue, and the *uvula*; and is also more easily resolved.

The most violent and dangerous kind of the *quinsey*, particularly considered, with respect to the part affected, is that which is seated in the internal muscles of the *larynx*, and in which no redness appears outwardly, either in the fore or hind-part of the neck, but a burning pain afflicts the patient internally, and not only a loss of speech is occasioned by the contraction of the *larynx*, but likewise a difficulty of respiration, and sometimes a total stoppage thereof, and in so short time, that it has been often observed to prove mortal in *twenty four* hours, or on the *third* day. This species is called by the *Græcians*, *cynanche*. But that which they term *synanche*, possesses the internal muscles of the *pharynx*, and is equally unattended with any visible external swelling and redness, but accompanied with a greater difficulty of deglutition, than of respiration, and liquids are often violently discharged thro' the nostrils. The inflammation, which attacks the external muscles of the *pharynx*, is called by the ancients *parasyanche*, but that which attacks those of the *larynx*, *paracynanche*.

'Tis divided by practitioners into the *true*, or *acute*, and the *bastard* quinsey. The *true quinsey* arises from a stagnation of the blood, but the *bastard* one from an inflammatory collection of serum, rather than of blood, in the throat, and internal parts of the neck. The former is an acute disease, and always attended with chillness and a fever; but the latter has a lymphatic and catarrhal fever joined therewith, rather than an acute one. Again, in a *true quinsey*, there is not only a burning pungent pain perceived in the internal parts of the throat, but the tongue appears turgid with blood, and of a dusky red, the face is likewise red, the temporal arteries beat strongly, and sometimes faintings succeed: and if it be very violent, a great difficulty of breathing, exceeding anxiety, restlessness, and a coldness of the extremities accompany it; hence it requires speedy relief, and is considerably dangerous. But a *bastard quinsey* is partly free from these violent symptoms, and partly attended with milder ones; and there is also less danger to be apprehended, provided it be properly treated. The quinsey may be further divided into a *dry and very burning one*, and a *moist or very mucous one*. The former proceeds from the blood, and is joined with a very acute fever, as we remarked of the true quinsey; but the latter is rather chronic, attends catarrhal fevers, and is very common in cachectic and scorbutic habits, and furs the tongue, and lines the throat with a thick, clammy *mucus*, and is also accompanied with a stinking breath.

All these species of the *quinsey* deserve to be distinguished from other disorders of the throat. The *true and dry quinsey* is not to be taken for that mucous inflammation of the mouth and *æsophagus*, which is usually called, *prunella alba*; for in this the
tongue

Sect. 6. thro' the nose, whence suffocation is endangered from the inflammation and tumour of the *uvula*, *tonsillæ*, and *larynx*. This disease is extremely dangerous, and sometimes kills the patient in a few hours, namely when a large quantity of the febrile matter is thrown upon the abovementioned parts, and the approaching tumult is not timely enough prevented by proper remedies.

The curative method delivered.

2. In order to the cure I immediately bleed plentifully in the arm, and presently afterwards in the veins

tongue and all the parts of the throat are lin'd with a white *mucus*, the tongue is affected with painful fissures, or chaps, and a great heat is also joined with it, which extends even to the *præcordia*. This often happens in malignant fevers, and generally affords a bad prognostic, because it indicates an actual inflammation of the stomach and *œsophagus*. Nor is every inflammation of the throat a quinsey; but that only which is attended with a fever, and a difficult respiration and deglutition.

The quinsey is also frequently *symptomatic*; for it happens in a diarrhoea and dysentery, especially if the discharge be unseasonably stopped, and also upon striking in an *erysipelas*, or wrong treatment of the gut by external remedies, and in the small-pox, malignant and pestilential fevers, with great danger of life.

It often prevails *epidemically*, which is to be ascribed to some bad disposition of the air, and it is then generally complicated with some malignancy. This happens after a long run of moist, rainy weather, in spring or autumn.

With respect to the prognostic, this disease is very dangerous, both on account of its being frequently join'd with an acute fever, and endangering suffocation; which latter is chiefly to be apprehended when the muscle called *thyroarithenoides*, which is designed to close the *larynx*, is affected therewith. It is a bad sign when the swelling of the external parts suddenly vanishes, the symptoms rather increasing than abating at the same time; for the distemper then flies to some other nervous parts, and seizing the brain, occasions a *delirium*, with convulsions; or being translated to the lungs, causes a mortal peripneumony, as *Hippocrates* testifies in the 5th section of his aphorisms, the tenth aphorism. But when the troublesome suffocation remits, and the pain and redness appear more outwardly, and vanish by degrees, it forebushes that the disease will terminate happily. If otherwise, it degenerates into an imposthume, or threatens death. If into an imposthume, and the matter be discharged into the *bronchia* and lungs, the event is very precarious, as *Forestus* testifies, *lib. 14. observ. xxiv.* If it threatens death, this is portended by a frothing at the mouth, a considerable swelling, and a dusky redness of the tongue, a coldness of the extremities, great contraction of the *præcordia*, and anxiety, along with a hard, convulsive, intermitting pulse. A symptomatic quinsey is adjudged dangerous, and can seldom be conquered, by reason of the weak state of the body, and the virulence of the matter. See *Hoffman, Med. rat. system, tom. iv. p. 1. p. 389, ad 395.*

veins under the tongue ; and then I order the inflamed parts to be besmeared with *honey of roses*, strongly acidulated with *spirit of sulphur* ; and prescribe the following gargarism to be used, not in the common way, but to be held quietly in the mouth till it grows warm, and then spit out ; and this to be repeated between whiles. Chap. 7.

Take of distilled waters of plantain, red roses, and frog-spawn, of each three ounces ; three whites of eggs, beat to a liquor ; white sugar, three drams : mix them together for a gargarism. The gargarism.

I also order the emulsion described in the cure of the pleurisy, or the like, to be taken daily.

3. I bleed again in the arm the next morning, unless the fever and difficulty of swallowing be in some measure abated, in which case I give a gentle purge, much experience having taught me that this is highly necessary and useful after bleeding. If the fever and other symptoms threaten disturbance even after purging, which yet seldom happens, they are to be quieted by repeated bleeding, and applying a large and strong epispastic between the shoulders. During the whole course of the disease, a cooling and emollient glyster must be given every morning, except on the purging day.

4. I enjoin a total abstinence from flesh and broths made thereof, allowing only *barley-broth*, *water-gruel*, *roast apples*, and the like for diet ; and *ptisan*, or *small beer*, for drink. The patient must likewise sit up some hours every day ; for the warmth of the bed increases the fever and its concomitants, which I endeavour to conquer by this method. 'Tis well worth observing, that the *quinsey*, which is only a symptom of a *stationary fever*, must be treated by the same method which the fever demands, and, accordingly, is either to be carried off by perspiration and sweat, or some other method which the original fever, whereon it depends, requires (*b*). The regimen.

5. There

(*b*) *Hoffman* observes that the treatment of this dreadful disease differs as the various kinds and causes thereof differ, to the just knowledge and removal of which the intention of the physician ought solely to be directed. When therefore there are manifest signs of a considerable stagnation of blood in the head, which not only augments the inflammation, but occasions fatal symptoms, the physician's first and principal care should be to derive the impulse of the blood from the part affected, which is most commodiously done by opening

Sect. 6.

5. There are other fevers which ought to be enumerated amongst the *intercurrents*, which, on account of their terminating immediately some other way, in some

ing a vein contiguous thereto. Bleeding in the jugular gives the most immediate relief: but if this cannot be conveniently done, a vein in the arm is first to be opened, and then the veins under the tongue. In case the disorder proceeds from the stagnation of acrimonious humours in the nerves of the throat, and the coats of the *larynx*, and there be no manifest plethora, scarification in the neck and chin, or the application of leeches is rather indicated. And where a swelling, with a slight pain and inflammation, in foul and phlegmatic constitutions, affects the external parts of the neck, occasioned by an abundance of viscous *serum*, scarification in the neck and shoulders is to be preferred to bleeding. In the next place the body is to be opened, which also invites the humours downwards, and discharges them. Gentle laxatives in a liquid form agree best here; for instance, a decoction made of two ounces of *manna*, a dram and half of *nitre with antimony*, and ten ounces of *whcy*: this decoction not only evacuates the humours, but smooths their acrimony and saltness. But if nothing can be taken by the mouth, let a glyster be injected, made of *milk, honey, oil of sweet almonds, common salt, and nitre*.

The superfluous blood and foul humours being thus evacuated, care is to be had to resolve and discuss the blood, or serous fluid, stagnating in the vessels, by proper internal and external remedies, and at the same time to mitigate the febrile heat. To this end are conducive the frequent use of diaphoretic and mild anodyne mixtures, and diluting liquors drunk plentifully.

This disease is farther to be opposed with externals; of which some are to be used by way of gargarism, and some to be applied to the throat and neck; that by these also the pain and inflammatory heat may be mitigated, the acrimony of the humours softened, and the stagnating fluids dissolved. In case of a great heat and pain, I would not advise the injection of gargarisms with a syringe; 'tis sufficient to wash the mouth between whiles with a proper liquor, warm, *Rob*, or *syrup*, of *mulberries*, *syrup of red poppies*, of *violets*, *mucilage of quince seed*, *barley cream*, *nitre*, *sal prunella*, *dulcified spirit of nitre*, are advantageously used for this purpose; and may be varied according to the circumstances, and mix'd with milk, a decoction of *liquorice* or *figs*, or *water-gruel*. A proper quantity of a mixture of *fresh oil of sweet almonds*, *sperma ceti*, *saffron*, and *syrup of violets*, given in water-gruel, and held a while in the mouth, is likewise of great service in this case. The remedies which are most frequently applied to the throat and neck, are cataplasms, prepared of paregoric and discutient ingredients boiled in milk, such as the *flowers of elder*, *melilot*, *camomile*, and *mullein*, *white lilly roots*, *figs*, *saffron*, *seeds of anise and fennel*, and *linseed flower*, to which some add *swallows nests*, and *album græcum*, as specifics. Lenient and emollient plaisters deserve also to be commended for this purpose, as *simple diachylon*, *melilot plaister*, let down with *oil of sweet almonds*, or rendered more effectual by a mixture of *sperma ceti*, *saffron*, and *camphire*.

In the use of externals, the different kinds of inflammations of the



some peculiar symptom, are not usually accounted fevers; tho' they were originally such. And the disorder, whence the disease takes its name, is only the symptom of the fever, which terminates at length therein. At present I shall only briefly treat of two of these, namely, *a bleeding at the nose*, and *a spitting of blood*.

A bleeding at the nose, and its symptoms described.

6. *A bleeding at the nose* happens at any time of the year, and chiefly afflicts such as are of a hot and weakly constitution, and more frequently in the decline of life, than in youth. Some signs of a fever appear in the beginning, which goes off suddenly, making way for itself thro' the nostrils, but there remains a pain and heat of the forepart of the head. The blood flows for some hours, and then stops a while, and soon after breaks out anew; and this it does alternately, till at length the hæmorrhage

the throat justly merit attention, and the remedies are to be accommodated to each particular species. Accordingly, in every painful and burning inflammation of the throat, the *julap of roses with nitre*, and a small proportion of *camphire*, is very beneficial. *Harts-horn jelly* is also an admirable assistant here. But if the throat be dry, and burns, the tongue swells, and there be a difficult respiration and deglutition, the following linctus is proper.

Take whites of eggs, beat to a liquor, two ounces; rose water, an ounce; syrup of pomegranates and mulberries, of each half an ounce; sal prunella, twelve grains; mix them together.

And the neck and throat are to be anointed with the following unguent.


Take of oil of sweet almonds, an ounce; oil of white poppies, two drams: camphire, half a dram: mix them according to art.

In a latent, internal, and very hot quinsey, the mouth is to be washed between times with only *milk and cream*, with an addition of *sal prunella* and *syrup of red poppies*; and whey to be drank frequently. But in the inflammation of the *œsophagus*, which often happens in malignant fevers, at the state, 'tis proper to give the following powder internally with an emulsion of sweet almonds, and to hold some of it in the mouth.

Take of white sugar, an ounce; nitre, a dram; camphire, three grains; make them into a powder.

The inflammatory pain, which proceeds from the stagnation of a sharp saline *serum*, in the glandulous parts of the throat, near the seat of the *pharynx* and *larynx*, and is attended with redness, and a copious discharge of *saliva*, but not a fever, is best discuss'd in the beginning, by gargarizing the mouth and throat with *Rhenish wine*.

When a copious, foul, serous humour falls upon the glands of the palate and throat, gentle laxatives, and detergent gargarisms, should be frequently used.

Sect. 6.  morrhage ceases entirely, being stopped either by the use of remedies, or ceasing spontaneously from the considerable loss of blood; but there is danger of a relapse every year, if the blood happens to be much heated by spirituous liquors, or any other way.

How to be treated.

7. In this case I endeavour to check the excessive heat and ebullition of the blood, whence the preternatural extravasation proceeds, and to divert the force of it another way. For this purpose I bleed frequently and copiously in the arm, the blood always appearing like that taken away in a pleurisy; I order a cooling and inraffating diet, as *milk* boiled with thrice the quantity of water, to be drank cold, *roast apples*, *barley broth*, and other *spoon-meats* made without flesh, and likewise cooling and inraffating julaps, with emulsions as above prescribed. I advise the patient to refrain from bed some hours every day, and not to omit taking a lenitive and cooling glyster every day also; and an opiate may be exhibited every evening at bed-time, in order to check the commotion of the blood. But as hæmorrhages of this kind are frequently accompanied with an acrimonious lymph, which being mixed with the blood, increases its motion, and opens the mouths of the vessels, besides revulsion and cooling, I usually give a gentle purge, even in the height of the disease, and an opiate in a larger dose than ordinary after the operation is over, and when the symptom is entirely gone off, I repeat the cathartic.

8. As to external applications, a linnen compress, dipt in a solution of *sal prunella* in cold water, and gently squeeze'd out, may be applied to the nape and both sides of the neck, often in a day. And after general evacuations the following liquor may be used (c).

A styptic liquor.

Take of Hungarian vitriol, and alum, each an ounce; the phlegm of vitriol, half a pint; boil them together till the salts are dissolved; filtre the liquor, when it is cold, and separate it from the crystals which shoot between whites; lastly, to the remaining liquor add a twelfth part of oil of vitriol. Put up a tent dipt in this liquor into the nostril whence the blood flows, and keep it therein two days (d). Linnen

(c) See Sect 1. Chap. 4. par. 48.

(d) The *Edinburgh dispensatory*, p. 77, has a composition under the

Linnen compresses dipt in this liquor, and applied to the part, will stop any external bleeding. Chap. 7.

9. A *spitting of blood*, which seizes weak persons, of a hot constitution, and disorder'd lungs, and young persons rather than old, between spring and summer, nearly approaches the nature of the hæmorrhage just treated: this being a *fever* likewise, that loses its name and essence, by the *crisis*, whereby it is terminated, with this difference only, that in a *bleeding at the nose* the blood, being too much agitated, flows impetuously to the veins of the nostrils, whereas in this hæmorrhage it hurries to the lungs. And as in the former disorder a pain and heat in the forepart of the head continue to afflict the patient, during the flux of blood, so in this the breast is affected with a pain, heat and weakness. This disorder also requires almost the same treatment, only it will not bear purgation, which, especially if it be repeated, endangers a consumption. But frequent bleeding, a glyster injected every day, and *diacodium* taken every evening, along with a cooling and inrastringing regimen and medicines, will effect a cure.

A spitting of blood described, and its cure.

10. And these are the particulars I have hitherto observed, concerning that numerous tribe of diseases, which is divided into different species, and comprehended under the *generical* name of *fevers*, and concerning the symptoms thereon depending; in which I have solicitously endeavoured not to intrude my own inventions and imaginations on the world, but, with a candid and impartial mind, and consequently attach'd to no hypothesis, have delivered the history of the diseases themselves, and their natural phenomena, and subjoin'd the method of cure with equal caution and fidelity. And if an earnest desire of discovering and establishing a more certain method of cure has led me to strike out a new road, 'tis hoped that none of the learned will accuse me, either of contemning their judgment, and trusting too much to my own, or a love of novelty; since the success which has attended my enquiries has hitherto much encouraged me, and the experience of my successors will doubtless testify my fidelity.

The observations hitherto delivered, quite practical.

II. In

the title of a *styptic-water*. which is much the same with that here described, only that the flegm of vitriol is there dropt, and its place more commodiously supply'd by spring-water.

Sect. 6.

*Fevers de-
stroy two
thirds of
mankind.*

11. In reality, this destructive tribe of diseases, which afflict mankind daily, and destroy at least two thirds of the human species, excepting such as die of a violent death, is not to be opposed in an indolent manner. The continued violence of these distempers, and the daily destruction of robust and young persons especially, notwithstanding all the helps which the specious methods delivered by theoretical authors have hitherto afforded, gave me little satisfaction when I first considered these matters; for I clearly perceived that those trifling disquisitions were so little conducive to the cure of diseases, that such as had recourse to these refuges were not more safe, notwithstanding the pretensions of their dogmatic authors, than such as neglected the assistance of art, and trusted wholly to nature.

12. It therefore I have contributed in some measure to lessen the difficulty and danger that frequently occur in the cure of these diseases, as without breach of modesty I may presume I have, I have gained my end in part, and enjoy the pleasing reward of my labours well spent in promoting the good of mankind. These are nearly all the principal discoveries I have hitherto made, or at least all those that I could reduce to any method, with relation to fevers, and the symptoms thereon depending, to the thirtieth of *December 1675*, when I finished these essays.

*An EPISTLE of ROBERT
BRADY, M. D. Master of
Caius College, Cambridge, and
Regius Professor of Physic
there, to Dr SYDENHAM.*

Learned Sir,

YOU are the only physician that has hitherto attentively considered the force of the air, and its influence upon the human body, an incompetent enquiry having been made by all others, with respect to the manner of its action in preserving life, the great share it has in the fermentation, alteration and circulation of the blood, and in performing animal motion: and the writers of natural and medicinal history seem to have wholly omitted searching into its natural temperature, and various alterations; which *constitutions*, you, with great judgment, intimate.

In reality, as the air insinuates itself into all, even the most impervious parts of the body, it must needs communicate the changes it undergoes from the matters wherewith it is impregnated to the blood and juices; and hence any particular depravity of the blood, generally, arises from some certain ill constitution of the air. You have, therefore, justly founded your medicinal observations of the history and cure of *acute diseases* upon the various *constitutions* of years, and their seasons; for the impressions of the air upon the blood and juices, and especially upon the spirits, which perhaps are formed of air, are manifest in these; and I am persuaded that the nature of fevers, as deduced from observing the temperature of the air in those years wherein they prevail'd, indicates the most useful, if not the only, method of establishing a sure basis for practice. Let me intreat you, therefore, if you have any observations relating to the fevers of the immediately preceding years, to
publish

publish them, by which means you will highly promote the good of mankind.

In *Señt. I. Chap. V.* of your work, you have briefly treated of the use and manner of giving the bark. I know some eminent physicians, who give it in a large quantity, and repeat it frequently; and others who prepare extracts and infusions of it, and make the infusions into emulsions, julaps, &c. affirming that they can hereby certainly cure intermittents, and likewise some continued fevers. 'Tis doubtless an excellent remedy in intermittents, and I have used it almost twenty years successfully in a variety of forms and preparations. If your experience has taught you any thing particular concerning its use, let me intreat you to make it publick.

In the cure of the rheumatism you have proposed frequent and copious bleeding as necessary (*a*); I should be glad to know if it will not yield with equal certainty to some gentler method. But whilst you employ your time in these matters, you will certainly be censured and calumniated by the malevolent, as you have heretofore been, however displeasing it may be to the candid and ingenuous part of mankind, who generally look on such persons with contempt.

And, in reality, if they would be acquainted with a history of fevers, their essences, causes, differences, and true method of cure, derived from a long course of experience, they must necessarily follow you as their guide, as there is scarce any other way of coming at this knowledge, except that which you have discovered.

Be not deterred, therefore, from pursuing your enquiries, despise the scurrility of the superficially learned, and assist the candid part of mankind: you have shewn the way, and if your endeavours displease, it lies upon those who censure it to shew us a better.

I take my leave with assuring you, that your compliance with my request will oblige the whole faculty, and, amongst the rest,

Your already obliged friend,

Cambridge,

Dec. 30, 1679,

R. BRADY.

Dr

(*a*) See *Señt. VI. Chap. V. Par. 4.*

*Dr SYDENHAM's Answer to Dr BRADY:
Containing the History of the epidemic
Diseases from the Year 1675 to 1680.*

Dear Sir,

1. **I**F I have at all contributed by my observations to render the cure of diseases more certain, it doubtless becomes me in particular to communicate them, more freely than other men, to those who desire it; for as I am satisfied that my knowledge does not exceed that of others, it can be of no prejudice to me to publish such trite and inconsiderable remarks. Nor do I deserve equal praise with others, for publishing what may be of use in the cure of diseases, since I can so easily imagine how much satisfaction it would give me, who have laboured under the gout near thirty years, and been a long time severely afflicted with the stone, to be informed of a method that might give me relief.

*The author's
modesty.*

2. But few persons are endow'd with such qualifications, as may make them serviceable to mankind in this case, and it is only to be accomplish'd by those whose abilities are superior to mine. Nevertheless I have always thought it a greater happiness to discover a certain method of curing, even the slightest disease, than to accumulate the most affluent fortune: and whoever effects the former, I esteem not only happier but better and wiser too. For can a person give a clearer proof of his benevolence and wisdom, than by his endeavouring always to promote the public good, rather than his private interest, which makes so small and inconsiderable a part of the whole? For, to use the expression of *Cicero*, that great master of thought and diction, and genius of his age, I may say of mankind; *As the laws prefer the good of the whole to that of particulars, so a wise and good man, who knows his duty, and obeys the laws, consults the good of mankind more than his own or any single person's (a).* And in reality, as it is the part of a wicked man to destroy his fellow-creatures; so it is the duty of a good man to preserve them and afford others such helps and methods

*The duty of
eminent
men.*

(a) *Cic. de fin. bon. & mal.*

thods, as may enable them to save others from death even after his own decease. Nor can any thing be more inhuman and detestable, than to insinuate a disregard and unconcern for whatever misfortunes may happen to mankind after our death.

The author complains of injurious treatment.

3. But, not to insist upon these matters at present, I must own, I think myself obliged to communicate to you the discoveries I have made relating to diseases mentioned in yours, however trifling they may seem. I must likewise return you my thanks for the generous sense you are pleased to express of the ill treatment I have received from some persons, whose censures I should have escaped, if the blameless conduct of a person, who has injured no man in words or actions, could have secured me. But since this has proceeded from no fault of mine, nor I hope ever will, I am determin'd to give myself no concern for the failings of others, being convinced that my business is only to act like an honest man, and discharge the office of a good physician to the best of my ability.

Epidemics to be first treated of, and in what manner.

4. I will therefore deliver the observations I have made concerning the diseases you enquire after in your letter. And, first, I will treat of the present epidemic intermittents; in doing which I conceive it may be proper to run thro' those years methodically, but briefly, which succeeded that wherein I concluded my history of the *acute diseases*, which had prevailed for fifteen years preceding, and just to recapitulate some particulars relating to their cure, that have already been taken notice of. By this means we shall more clearly perceive at what time, and by what degrees, the present reigning constitution of fevers crept in.

The diseases of 1676 the same with those of the three former years.

5. The year 1676 gave rise to the same tribe of diseases, as were generated by the constitution last mentioned, in our observations above delivered, *viz.* those of 1673, (in the autumn whereof it first began) 1674, and 1675. But this constitution being in its decline, the diseases that appeared were less severe than ordinary, and not so epidemic, notwithstanding the peculiar disposition of this year, with respect to the manifest qualities of the air, in which it differed considerably from the preceding years. For the heat of the summer, and the cold of the winter, were much greater than in most years within our remembrance. And yet, as so great a dis-

disfimilitude of seasons gave rise to fimilar difeafes, 'tis plain from hence that the fecret temperature of the air favours their production more than its manifefit qualities (b). But it muft be owned that the fame difeafes, with refpect to fome certain fymptoms, depend fometimes on the manifefit difpofition of the air, as appears from the *Meafles* and CHOLERA MORBUS of this year, of which I fhall briefly treat.

6. Thus, the meafles that appeared in the beginning of the year, tho' it was not very epidemic, was remarkable for its longer duration; for whereas it begins ufually in *January*, increafes till the vernal equinox, and then abating gradually, almoft goes off at the fummer folftice, this year it continued till near the autumnal equinox, occafioned perhaps by the fummer's heat, whence it gain'd force, fo as to prove of longer continuance; and neverthelefs it requir'd no new method of cure.

The meafles continued long this year.

7. At the clofe of fummer the *cholera morbus* rag'd epidemically, and being render'd more fevere by the extraordinary heat of the feafon, was accompanied with more violent and inveterate fymptomatic convulfions, than I had hitherto obferved. For not only the *abdomen* (which is ufual in this cafe) but all the mufcles of the body, and efpecially thofe of the arms and legs, were affected with terrible fpafms, fo that the patient would fometimes leap out of bed, and extend his body different ways, in order, if poffible, to mitigate their violence.

A very violent cholera morbus rag'd at the clofe of fummer.

S

8. But

(b) Perhaps our author afcribes too much, here and elfewhere, to the *fecret temperature of the air*, which probably has a great fhare in the production of contagious difeafes; but how it influences thofe of another fpecies has not hitherto plainly appear'd. Whereas, on the contrary, the *manifefit or fenfible qualities of the air*, fuch as its heat, cold, drynefs, moifture, &c. have evidently a confiderable power over epidemic difeafes, the fymptoms whereof feem to take their rife, fuffer great variations, and are fatisfactorily accounted for, from the preceding, or the then reigning manifefit difpofition of the air, or both jointly. The different feafons of the year, the variation of the winds, the fituation of places, the nature of the waters, and the manner of living of the inhabitants are alfo to be confidered in this view, as thefe eminently contribute to the rife and courfe of epidemic difeafes. For proof of this the reader may confult Dr WINTRINGHAM's *commentarium nofol.* HUXHAM *de aer. & morb. epidem.* HILLARY's accurate account of the *principal variations of the weather, and the concomitant epidemic difeafes, as they appear'd at RIPPON, &c. during the fpace of eight years; which is added to the 2d edition of his excellent practical effay on the SMALL-POX, lately publish'd.* RAMAZZINI *conftitut. epid. Mutinenf.* HOFFMAN. *med. rat. fyft. &c.*

*It required
stronger opi-
ates than
ordinary.
Exemplified
in a case.*

8. But tho' this disease admitted of the usual method of cure, yet stronger *opiates*, and the repetition of them with more frequency than ordinary, were manifestly indicated. To exemplify this observation: I was called to a person at this time, who was reduced to the last extremity by the abovementioned symptom, attended with excessive vomiting, cold sweats, and a scarce perceptible pulse; Dr *Goodal* accompanied me (whose name I can never mention, without calling to mind his probity and candour, his friendship for me, and his indefatigable endeavours to discover and cure diseases;) I gave the patient twenty five drops of my *liquid laudanum* in a spoonful of *strong cinnamon water*, for as there was a very great inclination to vomit, it was apprehended that a larger quantity of the vehicle might occasion the medicine to be vomited up, as it often happens in such cases. I waited near half an hour, and finding the medicine too weak to stop the vomiting, and take off the convulsions, I was oblig'd to repeat it, and increase the dose proportionably, till these obstinate symptoms were at length quieted; observing however to give it at such intervals, that I might be able to conjecture what effect the last dose would have, before I exhibited another. The convulsions, notwithstanding, being apt to return upon putting the body into the least motion, I strictly enjoined that the patient should remain quiet for a few days, and take the abovementioned medicine between whiles in a smaller quantity, even after his recovery, in order to prevent a relapse: and this method had the desired success.

*The author's
reasons for
giving lau-
danum co-
piously.*

9. Nor ought I to be accounted too rash for exhibiting *laudanum* in so great a quantity, since experience will clearly shew that in disorders where opiates are indicated, *viz. violent pain, vomiting, or immoderate looseness, and great disturbance of the spirits*; the dose of the medicine, and its repetition in point of frequency, must be proportioned to the urgency of the symptom. For such a dose as may conquer a slight symptom, will prove ineffectual in a stronger; and what would otherwise endanger life, will in such a case be a means of preserving it.

*Prevented
by sickness
from ob-
serving the
diseases of
1677.*

10. These are the diseases that prevail'd this year, being the same, as I have already intimated, with those of the three preceding years. But I can give no account of those

those that raged in the following year, viz. in 1677. For at the beginning of it I made bloody urine upon the least motion, and soon afterwards was attacked with the gout, which kept more in my bowels than in my limbs; and these disorders were succeeded with a decay of strength, a loss of appetite, a swelling of the legs, and other equally dangerous symptoms; so that death would then have been welcome to me. My ill state of health confined me within doors for three months, and afterwards obliged me to go into the country for my recovery, and stay almost as long there. I came back to town in autumn, when my friends inform'd me that there still remain'd a few intermittents here and there, most of which had first seiz'd the patients in the country; but having been prevented from attending the sick by my own illness, I can give no account of the diseases of this year.

11. The constitution of the following year, namely of 1678, being entirely changed, so eminently favour'd intermittents, that they again became epidemic, whereas from 1664 to this time, including the space of thirteen years, they were in a manner extinct in town, except only that they seiz'd a few *sporadically*, or were by accident brought with them out of the country. And they will not continue in this state, but will spread much more, till this constitution of the air whence they proceed comes to its height. For tho' only a few of these intermittents arose in the spring, yet they prevail'd so much over all other diseases at the decline of summer and beginning of autumn, as to be the sole epidemic diseases. But in the winter they yielded by degrees to the *small-pox*, and the other reigning epidemics, till the return of the season proper for them.

Intermittents arose, and became epidemic in 1678.

12. To proceed now to deliver what we have learnt by diligent observation, relating to the nature and causes of these Fevers. First then it is to be noted that tho' *quartans* were more frequent formerly, yet now *tertians* or *quotidians* were most common, unless the latter be entitled *double tertians*; and likewise that tho' these *tertians* sometimes began with chillness and shivering, which were succeeded first by heat, and soon after by sweat, and ended at length in a perfect intermission, returning again after a fix'd time, yet they did not keep this order after the third or fourth fit, especially if the

Tertians and Quotidians most frequent.

patient was confined to his bed, and used hot cardiacs, which increase the disease. But afterwards this fever became so unusually violent, that only a *remission* happened in place of an *intermission*; and approaching every day nearer to the species of continued fevers, it seized the head, and proved fatal to abundance of persons.

*Dangerous
to attempt
their cure
by Sudori-
tics.*

13. As to the cure, I have learnt, from the experience of many years, that 'tis dangerous to attempt to remove *tertians* and *quotidians* by *sudorifics*; for when they are recent, and have assumed no certain shape, they nearly approach to continued fevers. And tho' it is well known that as soon as the sweat flows, the restlessness and other symptoms presently go off, and a perfect intermission succeeds, and consequently that it should be somewhat promoted, or at least not hindered, when the fit is going off, yet 'tis manifest that if sweat be forced beyond the due degree, the intermittent becomes a continued fever, and life is endangered. I conceive the reason of this to be, that so profuse a sweat (since it exceeds the degree of the febrile matter, already so exalted by the heat of the fit, that it may now be expelled by despumation) after it has expelled that part thereof which might produce a single fit, proceeds to inflame the blood. Upon considering, therefore, the inefficacy of this method, and the inconveniencies attending other evacuations, as bleeding and purging, both which, by weakening the texture of the blood, prolong the disease, the *Peruvian bark* afforded me the surest hopes; of which I can truly affirm, notwithstanding the prejudice of the vulgar and a few of the learned, that I never found, or could reasonably suspect, any ill consequence follow its use; unless that such as have taken it for a considerable time are sometimes seiz'd with a *scorbutic rheumatism*, as I have before remarked in treating of the *Rheumatism* (c). But this disorder rarely proceeds from this cause, and, when it does, readily yields to the remedies there prescribed.

*The bark
not only
good in in-
termittents.*

14. And, in reality, if I were as certain of the continuance of its effects, as I am of the innocence of the bark, I should not scruple to prefer it to all the medicines hitherto known; since it is not only excellent in this disease, but likewise in those of the *uterus* and *stomach*: so little reason there is to complain of its unwholesomeness.

15. But

15. But I conceive that the *Cortex* has been ill spoken of, chiefly, for the following reasons. (1) Because the numerous train of violent symptoms, which accompany, previously to the use of the bark, inveterate intermittents, are ascrib'd to it, tho' it has been taken only once. (2) As it cures the disease by a secret virtue, and not by any sensible evacuation, several persons maintain that the morbid matter, which ought to have been expelled, is retained in the body by its astringency, ready to occasion fresh disturbance, the disease not being entirely carried off. But such persons do not sufficiently consider, that the sweats happening at the decline of the fit have expelled all the morbid matter that was collected during the preceding interval, so that only the seeds of the disease remain, which require time to be ripened, and the bark by closely pursuing the retreating fit, and cutting off the supplies of the disease, cannot be a means of retaining any morbid matter in the blood, which is now existent there only in *embrio*; consequently the bark is not to be esteem'd productive of those obstructions which are commonly judged to proceed from its use.

Why it has been ex-claim'd against.

16. But how does it appear that the bark cures intermittents by its astringency? In order to prove this, other astringents, possess'd of the same virtue, must first necessarily be produced; I have tried the strongest ineffectually. Besides, the bark effects a cure, even where it purges, which is sometimes the case. Upon the whole, therefore, they act the wisest part, who limit their enquiries to their abilities. But if a person imposing upon himself should imagine that he is possess'd of other faculties than such as are useful, either to natural religion, by which we learn that God, the creator and governour of all things, is to be worship'd with profound veneration, as he justly merits; or to moral philosophy, that he may practise virtue, and render himself every way useful to society; or, lastly, to the medical, mathematical, and mechanical arts, which supply mankind with many helps and conveniences: I would have him, in the first place, deduce an hypothesis from natural philosophy, that may enable him to explain the cause of but a single specific difference of things in nature. For instance, let him account for

It does not appear to cure by its astringency.

the universal greenness of grass, and why it is never found of any other colour, and the like. And if he can do this, I will readily embrace his sentiments; but if not, I shall not scruple to affirm, that all the diligence and caution of a physician should be employ'd in investigating the history of diseases, and applying those remedies which stand recommended by experience for the cure thereof; observing notwithstanding that method which is founded on right reason, and not the result of idle speculations. I will therefore briefly deliver what experience hath taught me, relating to the method of exhibiting the bark.

*A short
history of
the bark.*

17. The *Peruvian bark*, commonly called the *Jesuit's powder*, to the best of my remembrance, began to be esteemed at *London*, for the cure of intermittents, and especially *quartans*, about twenty five years since; and indeed very deservedly, as these diseases before this time were seldom cur'd by any other method, or medicine; whence they were reputed the *opprobria medicorum*, and not without cause. But not long after it lost its character, and was entirely disused, for two considerable reasons. (1) Because being exhibited only a few hours before the coming of the fit, according to the received custom of that time, it sometimes destroyed the patient, which I remember happened to Mr. *Underwood*, a citizen and alderman of *London*, and to captain *Potter*, an apothecary in *Black friars*. This fatal effect of the powder, tho' very rare, did, however, deservedly prevail with the more prudent physicians to refrain its use. (2) Because tho' the patient was for the most part freed from the fit, that would otherwise have come, by this medicine, yet a relapse commonly happened within a fortnight, particularly when the disease was recent, and had not been weakened by a long continuance. These reasons weigh'd so much with the generality, that they lost all the hopes they had hitherto conceived of this medicine; nor did they esteem it so material to prevent the access of a fit for a few days, as upon this account to endanger their lives by taking the bark.

*The best
medicine in
intermit-
tents.*

18. But having some years since thoroughly considered the extraordinary virtues of the bark, I was firmly persuaded that intermittents could not be better cur'd than by this efficacious medicine, provided it were given with proper caution. For this reason I spent much time

time in considering how I might prevent the danger ensuing from its use, and the relapse that succeeded in a few days, which were the two inconveniencies to be remedied, and by means thereof to restore the patient to perfect health.

19. (1) I conceived that the danger proceeded less from the bark itself, than from the unseasonable use thereof; for when a large quantity of febrile matter is collected in the body upon the intermediate days, the bark, if taken immediately before the fit, obstructs the expulsion of the morbid matter in the natural way, (namely by the violence of the fit) which being preternaturally detained usually endangers life. But I judged I could remedy this evil, and likewise prevent the fresh generation of febrile matter, by giving the powder directly upon the departure of the fit, so that a stop might be put to the succeeding one; and by repeating it upon the intermediate days, at proper distances, till the approach of a new fit; and that by this means the blood might be impregnated gradually, and consequently safely, with the virtue of the bark.

How rendered more certainly effectual.

20. (2) As the relapse, which generally happened in a fortnight, seem'd to me to proceed from not sufficiently impregnating the blood with the virtue of the febrifuge, which, however efficacious, was not powerful enough to cure the disease at once, I judged that the best method of preventing a relapse would be to repeat the powder, at proper intervals, before the virtue of the preceding dose was quite spent, even tho' the intermittent appeared to be conquered for the present.

21. These considerations led me to the following method, which I now use. When I am called to a person afflicted with a quartan, suppose on a *Monday*, if the fit is expected the same day, I refrain from doing any thing, and only give the patient hopes that he shall be freed from the next fit. And, in order to effect this, I exhibit the bark upon the two intermediate or well days, namely *Tuesday* and *Wednesday*, in the following manner.

The method specified.

Take of Peruvian bark, very finely powdered, one ounce; The febrifuge of cloves, or of dried roses, enough to make it fuge electuary; to be divided into twelve doses, whereof let the patient take one every fourth hour,

S 4

beginning

Of the epidemic Diseases

beginning immediately after the fit is gone off, and drinking after each dose a draught of any kind of wine.

Or, if pills be more agreeable,

The febrile pills.

Take of the Peruvian bark very finely pulveriz'd one ounce; syrup of cloves, enough to make it into pills of a middling size; of which let the patient take six every fourth hour.

But an ounce of the powder may be mixed with a quart of *claret*, with less trouble, and equal success, and eight or nine spoonfuls of it given at the intervals abovementioned. I order nothing on *Thursday* when the fit is expected, because for the most part it does not come, the remainder of the febrile matter being despumated, and expelled the blood, by the usual sweats which terminated the preceding fit, and a collection of fresh matter being prevented by the repetition of the powder upon the intermediate days.

The first quantity of the bark to be repeated 3 or 4 times.

22. But in order to prevent a relapse, which was one of the inconveniencies above recited, I always gave the same quantity of the powder, an ounce divided into twelve doses, upon the *eighth* day, precisely after taking the last dose. But tho' a single repetition of the bark in this manner does frequently remove the disease, yet the danger is not over unless the patient will comply with the directions of his physician, and take it thus a third or fourth time; especially when the blood has been impoverish'd by some preceding evacuation, or the body unadvisedly exposed to the cold air.

To be given with laudanum, if it purges.

23. Now tho' there is no inherent purgative virtue in this medicine, yet a violent purging is frequently occasioned thereby, on account of some peculiar *idiosyncrasy* in the constitution. In this case it is indispensably necessary to exhibit *laudanum* therewith, to prevent its having this effect, which is manifestly as opposite to its own nature, as it is to this disease, and that it may be retained long enough to answer its end. Therefore I direct ten drops of *laudanum*, to be given in a little wine, after every other dose of the powder, provided the purging does not go off.

24. I follow the same method in other intermit-
tents, whether *tertians* or *quartans*: for immediately upon

upon the fit's going off I administer a dose of the powder, and repeat it in point of frequency, at as close intervals during the time of the intermission, as the nature of the disease will admit; but with this difference, that a *tertian* may be so far conquered with six drams of the bark, as at least to give a respite, whereas a *quartan* can very rarely be removed with less than an ounce of it, divided into proper doses.

The same process to be used in tertians or quartans.

25. But tho' *tertians* and *quotidians* after a fit or two may seem entirely to intermit, yet, as I have before observed, they afterwards frequently degenerate into a species of continued fevers, and only come to a *remission* even upon those days that promised an *intermission*; especially when the patient has been kept too warm in bed, or been tormented with medicines to carry off the intermittent by sweat. In this case, I have no other way left, but to take advantage of the *remission*, tho' it be ever so small, and accordingly I give the powder immediately after the fit is gone off, as near as I can conjecture, and repeat it every four hours, as abovementioned, without waiting for a regular intermission, because otherwise the *alexiterial* virtue of the bark cannot be communicated to the blood in so short an interval.

Tho' there be only a remission.

26. And tho' the present reigning intermittents, after the second or third fit, incline to continued fevers, yet they must be referr'd to the intermittent kind; and therefore I scruple not to order the bark, even in the most continued of this species; the repetition of which in the abovementioned manner will certainly remove the disease, provided the constant warmth of the bed, and the improper use of cardiacs, have not rendered it a continued fever; in which case I have frequently observed that the bark proves ineffectual. Nor have I ever found that the wine, wherein the bark is administered, did the patient harm, which might reasonably be suspected; but contrariwise the heat, thirst, and other febrile symptoms generally went off soon after taking a sufficient quantity of this medicine. But it must here be observed that the nearer the intermittent approaches to a continued fever, either spontaneously, or from using too hot a regimen, so much the more necessary it is to exhibit a larger quantity of the bark; for I have sometimes found that the intermittent would

The more the intermittent tends to a continued fever, the more bark must be given.

would not yield to less than an ounce and half, or two ounces of the bark.

*To be given
in infusion,
where it
can be ta-
ken in no
other form.*

27. As some persons can neither take the bark in powder, an electuary, or in pills, I give them an infusion of it, which is made with two ounces of bark grossly powdered, infused cold for some time in a quart of *Rhenish wine*. This infusion, being several times passed thro' a fine strainer, becomes so clear, as not to be nauseated by the nicest palate. Four ounces of this infusion, after it has stood some days, should seem equivalent in virtue to a dram of the powder in substance; and as it is neither disagreeable, nor lies heavy upon the stomach, it may be exhibited with twice the frequency of the other *formulæ*, till the disease vanishes.

*In case of
vomiting,
this must be
stopt before
giving the
bark.*

28. When this disease hath assumed no regular appearance, it is sometimes attended with an almost continual vomiting, so that the bark cannot be retained in any form; in which case the vomiting must be stopt first, before it can be administered. For this purpose I order a scruple of *salt of wormwood* to be dissolved in a spoonful of fresh *juice of lemons*, and taken six or eight times in the space of two hours; and afterwards I give sixteen drops of *liquid laudanum* in a spoonful of *strong cinnamon water*; and soon after, if the vomiting stops, I proceed to the use of the bark.

*To be given
in a julap to
children.*

29. For children, who, on account of their tender age, can scarce bear to take this remedy in any other form, at least in a suitable quantity to effect a cure, I generally prescribe the following julap (*d*).

*The febrile
julap.*

Take of black-cherry water, and Rhenish wine, each two ounces; Peruvian bark, finely powdered, three drams; syrup of cloves, an ounce: mix them together for a julap. Let a spoonful or two (according to his age) be given to the child every fourth hour till the fits vanish, dropping into every other dose, in case of a looseness, one or two drops of liquid laudanum.

30. It

(*d*) The method of curing intermittents by glysters, a discovery ascribed to *Helvetius*, was not known in our author's time; which, however, is not to be equally depended upon with that by the mouth. But in some cases it becomes necessary to have recourse to it, and it is often attended with success. Grown persons as well as children have been cured by it.

30. It must further be observed, that the intervals between the fits in *tertians* and *quotidians* are so short, that they do not allow sufficient time to impregnate the blood perfectly with the febrifuge virtue of the *cortex*: so that 'tis not to be supposed that the patient should so certainly miss the next fit after the first time of taking it, as it commonly happens in a *quartan*; for the medicine in these cases will frequently not effect the cure in less than two days.

The bark, in tertians or quotidians, does not always put by the fit, after the first time of taking it.

31. It must also be noted, that if the patient, notwithstanding the observance of the cautions above delivered, should relapse, which happens less frequently in a *quartan*, than in *tertians* or *quotidians*, it will become a prudent physician not to adhere too closely to the method of giving the bark at the abovementioned intervals, but to attempt the cure, as his judgment shall direct, by some other procedure; and here the *bitter decoction* is generally esteemed of most powerful efficacy.

What to be done in case of a relapse.

32. With respect to diet and regimen, the patient must be allowed the use of all kinds of solid or liquid aliment that agree with his stomach, fruit and cold liquors always excepted, because they impoverish the mass of blood, and are very apt to occasion a relapse. Let the diet therefore be flesh of easy digestion, and a moderate use of wine may be permitted for common drink; by the sole use whereof I have sometimes recovered such as have been so debilitated by the frequent return of the intermittent, that the bark prov'd ineffectual to their cure. The patient likewise must not unadvisedly expose himself to the cold air, till the blood has recovered its former healthy state.

The regimen in intermittents.

33. It must here be noted, that tho', in treating of intermittents heretofore, we recommended due purging after the disease was gone off (*e*), yet this practical caution is only to be understood of such intermittents as either went off spontaneously, or were cured without the assistance of the bark. For when the cure is effected by this medicine, cathartics are unnecessary and hurtful; so powerfully does the bark, alone, resist the fits, and the indisposition they occasion. Hence therefore all kinds of evacuations must be refrained; for the gentlest purge, nay even a glyster of *milk* and *sugar*, will certainly

A caution concerning purging.

certainly endanger a relapse, and perhaps reproduce the disease.

These intermittents had symptoms resembling a true Apoplexy.

34. And here 'tis proper to mention that a very remarkable symptom did sometimes succeed these intermittents in the first years of this constitution. For the fits did not begin with chilness and shivering, which were succeeded by a fever, but the patient was seiz'd with the symptoms of a true *apoplexy*, tho' in reality, how nearly soever it resembled this disease, it was nothing more than the effect of the fever's seizing the head; as plainly appeared from other signs as well as the colour of the urine, which in *intermittents* is usually of a deep red, tho' not so red as in the *jaundice*, and likewise lets fall a *lateritious* sediment. But tho' in this case all kinds of evacuation seem to be indicated, in order to make a revulsion of the humours from the head, as is generally practised in the genuine apoplexy, yet they are to be wholly refrained, because they are very prejudicial in the intermittents, whence this symptom originally proceeds, and consequently endanger life, as I have observed. On the contrary, therefore, we must wait till the fit goes off spontaneously, when the *cortex*, in case it could not be given sooner, must immediately be exhibited, and repeated with sufficient frequency in the intervals, till the patient be perfectly recovered.

Aged persons sometimes seiz'd with a diabetes, from ill management.

35. It sometimes happens, tho' very rarely, that the aged, after having been long afflicted with this disease, and weakened by improper bleeding and purging, are seized with a *diabetes*, tho' the intermittent be perfectly cured. For their blood being by this means so impoverished, as to be wholly unable to assimilate the juices received into the mass, they pass off crude and indigested by the urinary passages, and, in consequence of the large quantity of urine which is voided at every evacuation of this kind, the strength is gradually impaired, and they become greatly emaciated, the substance of the body being in a manner wash'd away. The indications of cure in this case, and every *diabetes*, however occasioned, are (1) to enrich and strengthen the blood, and (2) to stop the preternatural discharge by urine.

How cured.

For

For instance, *Take of Venice treacle, an ounce and half; conserve of orange peel, one ounce; diascordium, half an ounce; candied ginger and nutmeg, of each three drams; Gascoign's powder, a dram and half; of the outward bark of pomegranate, the root of Spanish angelica, red coral prepared, and the troches of Lemnian earth, each a dram; bole-armeniatic, two scruples; gum-arabic, half a dram; syrup of dried roses, enough to make all together into an electuary: of which let the patient take the quantity of a large nutmeg in the morning, at five in the afternoon, and at bed-time, drinking after each dose six spoonfuls of the following infusion.*

Take of the roots of elicampane, masterwort, angelica, and gentian, of each half an ounce; the leaves of Roman wormwood, white horehound, the lesser centaury, and calamint, each one handful; juniper berries, an ounce; when these ingredients have been sliced and bruised, as they require, pour upon them five pints of canary, and let them stand together in a cold infusion, and strain it as it is used (f).

The patient's diet should be food of easy digestion, as veal, mutton, and the like: he must forbear vegetables, and fruits of all kinds, and drink Spanish wine at meals.

36. That

(f) The *diabetes* here should seem to proceed from a poorness, join'd probably with a viscosity, of the blood and humours, weak viscera, and a relaxation of the urinary passages. This being the case, it may perhaps give way to the medicines here prescribed. But if it should not, and the patient be strong enough, give a vomit of *Ipecacuanha*, and afterwards proceed to the use of such medicines as gradually attenuate and destroy the cohesion of the fluids; the chief of which kind are the preparations of *mercury*; and having continued these for some time, it will be proper to exhibit astringents, join'd with deobstruents, as bitters, spices and chalybeates. Dr *Harris*, in a case of this kind, which is related at the end of his treatise *de Morb. acut. infant.* commends the following infusion.

Take of rhubarb, half an ounce; white and yellow sanders, each a dram; the lesser cardamom seeds, half a dram: pour upon them a pint of canary, and let them stand together in a moderate heat, in a well-closed vessel. Let the patient take six spoonfuls of the strain'd liquor, three times a day.

The patient during the course of the cure should use liquids very sparingly, and avoid whatever may debilitate the solids, and generate viscous juices.

The fluor
albus cur'd
by nearly
the same
treatment.

36. That obstinate and lasting disease, the *fluor albus*, is cured nearly by the same method and medicines as the *diabetes* just mentioned; for the curative indications in both are the same, how much soever these diseases may seem to differ. But in the cure of the *fluor albus* bleeding must be used once, and afterwards purging thrice with two scruples of the greater *pil. cochia*, before we proceed to strengthening medicines; but no more during the whole process, because all kinds of evacuations destroy the virtues of strengthening remedies (g). But this by the way.

The bark
best alone.

37. And these are the observations I had to communicate, in a summary way, concerning the use of the bark; for my design was not to consult the pomp of medicine. And in reality they who add any thing more to the *Cortex*, than a vehicle which is necessary to carry it into the stomach, in my opinion either do it ignorantly, or fraudulently, which every good man must needs detest, who, as a part of the whole, would not be induced to commit such a fraud for his private advantage. As to what remains, if my cotemporaries had pleased to have considered what I published four years

(g) Bleeding, if the case requires it, should be perform'd in the beginning; then, if the stomach be foul, let a gentle vomit of *Ipecacuanha* be given; proceeding afterwards to the use of laxatives, especially. A warm bath, made of a decoction of marjoram, thyme, calamint, sage, rosemary, camomile flowers, bay and juniper berries, &c. will be of admirable service.

Hoffman recommends a course of mineral waters. An inveterate *fluor albus*, says this great man, proceeds from an acrimonious humour, generated by a too violent or frequent use of venery; or from a humour, introduced in the way of a communicated taint, which afterwards infects the glands of the *vagina*, so as not only to make them discharge their juice in plenty upon the adjacent parts, but the same juice, being also infected, eats and corrodes the fine fibres of the parts it passes over; and thus occasions sharp darting pains, excoriations and ulcers; whence proceeds the matter of a virulent flux. From this account, which is taken from dissections, it clearly appears, that, in order to wash away, dilute, and weaken these infected juices, soften the hardened glands, strengthen the fibres that are fretted and corroded, and join them again with the other untainted parts, a course of mineral waters is highly proper. And tho' it be true, that whilst the course is in hand, the flux will increase, yet when the course is over, there ensues a more certain and confirmed cure. But in order to this end, balsamic remedies, and a moderate decoction of the drying woods, are to be us'd in the drinking of them; by which means the cure may be surprizingly facilitated. *New exper. and observ. upon min. wat. translated by Dr SHAW, p. 126, 127.*

years since in my history of acute diseases, (which, 'tis highly probable, I was acquainted with before that time) relating to the method of exhibiting the bark in the intervals of the fits, and the succeeding repetition of it, when the disease was gone off, perhaps the lives of many persons had been saved; how much soever some men contemned my slender endeavours for the publick good, and slighted the cautions there delivered in the following words, which contain, in a concise manner, what I have here judged proper to enlarge upon, *viz.* (b)

38. “ (1) Great caution must be had not to give
 “ this bark too early, namely, before the disease be in
 “ some measure spontaneously abated; unless the ex- *How to be*
 “ treme weakness of the patient requires it to be given *given.*
 “ sooner; for the giving it too soon may render it in-
 “ effectual, and even fatal, if a sudden stop should be
 “ thus put to the vigorous fermentation raised in the
 “ blood in order to its despumation. (2) We must not
 “ direct purging, much less bleeding, in order to carry
 “ off a part of the febrile matter, and render the bark
 “ more effectual; for they both weaken the tone of
 “ the parts, whence the disease returns so much the
 “ more expeditiously and certainly, after the virtue of
 “ the bark is spent. It were better, in my opinion, to
 “ impregnate the blood with this medicine by degrees,
 “ and at distant intervals from the fit, rather than en-
 “ deavour to stop it at once, just upon its coming; for
 “ by this means the bark has more time to produce its
 “ full effect in, and, besides, the mischief is avoided
 “ that might happen by putting a sudden and unsea-
 “ sonable stoppage to the fit just approaching. (3) The
 “ bark must be repeated at short intervals, that the
 “ virtue of the former dose may not be entirely gone
 “ off before another be given; and by repeating it fre-
 “ quently the disease will, at length, be perfectly cur'd.
 “ For these reasons I prefer the following method of
 “ giving the bark to all others.

“ Take of the Peruvian bark, one ounce; conserve of The febrile
 “ roses, two ounces; make an electuary thereof: *fuge elec-*
 “ take the quantity of a large nutmeg, every morn- *tuary.*
 “ ing and night, on the intermediate, or well days,
 “ till the whole be taken; and let it be repeated
 “ thrice, interposing a fortnight between each time.”

39. But

(b) Sect. I. Chap. V. Par. 34.

Vernal tertians how cured without the bark.

39. But tho' the bark is the best medicine, hitherto discovered, for the cure of these diseases, yet I have known *vernal tertians*, in persons in the prime of life and of a sanguine constitution, yield to the use of the following remedies. For instance; bleed in the arm upon the intermediate day, and some hours afterwards, upon the same day, give an emetic of the infusion of *crocus metallorum*, regulating the time in such manner that its operation may be over before the fit comes; and as soon as it is gone off, let the following electuary be given.

The stomachic electuary.

Take of the extract of wormwood, gentian, and the lesser centaury, each two drams; mix them together, and divide the whole into nine doses, of which let one be taken every fourth hour, drinking, after each dose, of the bitter decoction without purgatives, and of white-wine, each three ounces.

In indigent persons.

40. There is another method of curing these *tertians* in persons of low circumstances, who are unable to be at the expence of a long course of medicines in order to their cure. As,

The sweating draught.

Take of Virginian snake-weed, in fine powder, a scruple; white-wine, three ounces: mix them together. Let the patient take it two hours before the fit comes, and being well covered with cloths, sweat three or four hours afterwards, and let it be repeated twice in the same manner.

Intermittents appeared anew in 1679.

41. In the following year, viz. 1679, these intermittents re-appeared at the beginning of July, and increasing every day, prov'd very violent and destructive in August. But having already treated of these at large, I shall only observe that they gave way to a new epidemic, which proceeded from the manifest qualities of the air in November.

A cough arose in November.

42. For at the beginning of this month a cough arose, which was more epidemic than any I had hitherto observed; for it seized nearly whole families at once. Some required little medicine, but in others the cough occasioned such violent motions of the lungs, that sometimes a vomiting and a *vertigo* ensued. On the first days of the disorder, the cough was almost dry, and the expectoration not considerable, but afterwards the matter

ter in some measure increased. In short, from the smallness of the expectoration, the violence of the cough, and the duration of the coughing fits, it seemed to make a near approach to the *convulsive* or *hooping cough* of children; only it was not so severe. But it was attended with a fever and its usual concomitants, in which particular it exceeded the convulsive cough, which I never knew accompanied therewith.

43. Tho' coughs are common at the beginning of winter, yet every one was astonished to find them so very frequent this year; which I conceive proceeded chiefly from this cause: The month of *October* having been wetter than usual, (for it seldom ceased raining) the blood, corresponding with the season, drank in abundance of crude, watery particles, by reason that perspiration was stopt upon the first coming of the cold, whence nature endeavoured to expel them, by means of a cough, thro' the branches of the pulmonary artery, or, as some will have it, thro' the glands of the wind-pipe.

Whence it affected numbers.

44. When there is occasion for medicine, 'tis doubtless proper to undertake the cure by evacuation, namely, bleeding and purging; for the redundant serous particles cannot be so commodiously expell'd by any other method, as by bleeding and purging, which greatly empty the veins.

Bleeding and purging serviceable herein.

As to pectorals, setting aside their pleasing the patient, I own I cannot conceive how they can remove the cause of the cough; since their whole operation seems to consist, either in thickening the matter when 'tis too thin to be expectorated, or in attenuating it, when, by reason of its viscidty, it can scarce be raised. This I certainly know, that 'tis lost time to give such medicines, and that sometimes the blood is so impoverished by the retention of the serous particles which are prejudicial to nature, and further that the lungs are so shaken by the violence of the cough, that a consumption is often occasioned thereby, from which the patient should be freed by hastening the cure. Nor are sudorifics much safer; for sometimes they cause a fever, and sometimes also the particles of the blood, which are easily inflammable, are so fixt upon the *pleura* that a *pleurisy* is occasion'd, which happen'd to numbers during the course of this epidemic cough, with great danger.

Pectorals useless.

T

45. Accord-

The cure
particular-
iz'd.

45. Accordingly I took away a moderate quantity of blood from the arm, and applied a sufficiently large and strong epispastic to the neck, in order to make a revulsion of part of the peccant matter. Afterwards I exhibited a lenient cathartic every day, prepared of an infusion of *senna* and *rhubarb*, with *manna*, and *solutive syrup of roses*, till the symptoms abated considerably, or a perfect recovery ensued. Or if draughts were disagreeable, I directed two scruples of the greater *pil. cochia* to be taken every morning at five a clock, sleeping upon them.

The hoop-
ing cough,
cur'd by the
same treat-
ment.

46. The *convulsive* or *hooping cough* of children is only cured by this method, *viz.* by bleeding and repeated purging, which otherwise proves a very lasting and almost incurable disease. I know not what others may be able to do in this case, but I own that I have often tried different, and almost all other kind of remedies here without success: but only lenient purgatives must be exhibited, and these by spoonfuls, in proportion to the age of the patient. And I conceive that this moderate evacuation cures this cough in this manner. For instance, tho' a copious serum is not found in the lungs, yet the hot exhalations, which are carried to them from the blood at set times, occasion these violent fits of coughing in children, the force of which upon the lungs seems to be most effectually check'd and prevented by this method only; whereby a contrary motion to the former is given to the cause of the disease, namely, by the bowels (*i*).

47. But

(*i*) As this disorder will not always yield to the method here laid down, we shall deliver the treatment thereof, as it hath been approved by a long course of experience, by the accurate *Huxham*.

If there be a *plethora*, says he, or the expectorated matter be streak'd with blood, I always order bleeding, and especially if the fever demands it, as it often does, or the face turns black with coughing; and sometimes I repeat it, due regard being had to the strength and age of the child. Soon after I give a gentle emetic of *syrup of peach blossoms*, *oxymel of squils*, the infusion, or decoction of *Ipecacuanha*. For the cough, as *Walschmidt* observes, proceeds partly from the stomach; a fit of the *hooping cough* seldom ceasing before the tough, tickling phlegm be vomited up, and there is frequently so large a quantity of it, that 'tis necessary to repeat the emetic a third, or fourth time.

The belly is likewise to be loosened between whiles, but only lenient purgatives must be administer'd for this purpose; as *rhubarb*, *alcalisate mercury*, and *calomel*. By this means the mucous matters are carried off, so that they do not foul the chyle, or the lacteal

47. But in the first stage of epidemic diseases, of whatsoever kind they be, great care must be had not to purge before bleeding. For the diseases which arise from an epidemic constitution of the air, are either actually fevers, or upon the least occasion degenerate into fevers; so that a fever may easily be caused by the disturbance raised in the blood and juices by the mildest purgative, and the heat succeeding it, which nature had otherwise expelled by the usual evacuations of the

Bleeding to precede purging in the beginning of epidemic diseases.

T 2

morbific

lacteal vessels, by getting into the blood; for great costiveness is universally prejudicial, occasioning a fever, or greatly increasing the difficulty of breathing. Nor is there need only of evacuations, but such medicines also are to be exhibited, as strengthen the nerves and stomach, and attenuate the viscosity of the blood; and these intentions are admirably answered by *mercury* and the *bark*, join'd with proper *stomachics*. The difficulty of breathing and oppression of the breast often require a solution of *gum-ammoniac*, an expression of *wood-lice*, or the like; and sometimes, to abate the violence of the cough, *LE MORT's asthmatic elixir*, or *diacodium* may be given, which, indeed, is the best and safest opiate in this disorder. But if the sharp humour falls plentifully upon the *larynx*, or the lungs, it is necessary to make a revulsion thereof, by applying a blister between the shoulders.

This distemper readily yields to these remedies, which otherwise frequently proves very obstinate, and can only be cur'd by time, and changing air. The specifics extolled by women, as far as I have observed, are mere trifles, not excepting *cup-moss*, which, if serviceable, is only so on account of its astringent, and consequently strengthening virtue, somewhat resembling the nature of the bark. For this noble *Indian* drug not only attenuates gross humours, but strengthens the whole nervous system; and, operating in this manner by both properties, cures intermittents. Moreover, the periodic return of this cough, which is often as certain as the fit of an intermittent, shews that this disease does not greatly differ from the nature thereof; which seems still more probable from hence, that both these disorders generally prevail in the same season, arise from the same cause, and are cured by the same remedies. *HUXHAM de Aer. & Morb. epid. p. 76, 77.*

Dr Burton, in an essay upon this disorder, plac'd at the end of his treatise upon the *Non-naturals*, highly extols the following remedy, when this cough arises, as it frequently does, from viscous phlegm.

Take of the extract of Peruvian bark, three drams; Spanish flies, and camphire, each a scruple: mix them together.—Give the child eight or nine grains more or less, (in proportion to its age, the violence of the complaint, &c.) every third or fourth hour, in a spoonful of a solution of a small quantity of Balsam of Capivi in any simple distilled water. And let the child's common drink be an emulsion made with sweet almonds, and barley water, sweetned with fine sugar or something of the like kind.

morbific matter; as, for instance, by a *catarrh*, or an epidemic cough, of which we now treat, or by a *diarrhoea*, when the epidemic fever has a tendency to that discharge. The same may be said of any other constitution of the air, that disposes the body to some peculiar fever, which does not always actually happen, because nature expells the morbid matter from the blood by some suitable evacuation. This I affirm to be fact, tho' the present practice is to exhibit cathartics before bleeding, or, which is still more dangerous, without bleeding at all.

*The reasons
for it.*

48. For tho' it may be objected, that by bleeding before purging the foul humours contained in the first passages are propelled into the empty veins, yet it is most certain, that the evacuation which precedes bleeding cannot make amends for the injury which the blood receives from the tumult raised therein by the cathartic. And it must be owned that a purge, taken immediately after bleeding, works much more gently, and heats and agitates the blood less, than it usually does when exhibited before bleeding (*k*); and I am apt to think that numbers, and children especially, have perished for want of knowing this, or thro' a neglect of it.

*Experience
likewise in
favour of it.*

49. And this I have learnt from a long course of experience, which is the surest guide in these cases; and unless practice be regulated thereby, it were better to discard the art. For the lives of men are but too much trifled with; on the one hand by empirics, who are ignorant of the history of diseases, and the method of cure, and only provided with receipts; and on the other hand by such idle pretenders, as rely wholly upon theory:

(*k*) This is true in fact; and to account for it, let it be remembered that all the excretions universally are regulated by the circulatory motion of the blood; the slowness or velocity whereof influences them in an eminent degree. For instance, if the circulation languishes thro' a fulness of blood, 'tis clear that this fluid will grow thick, and obstructions be generated, whence it will not flow in sufficient quantity to the emunctories, which upon this account will perform their functions in an irregular and sluggish manner. But if bleeding be used, which empties the vessels, the circulation is necessarily increas'd, whence the blood becomes more fluid, opens the obstructions in the excretory ducts, and, flowing more plentifully to the emunctories, enables and stimulates them to discharge their contents.

ry: whence both together destroy greater numbers than the diseases would without their assistance.

50. But that method of practice, and that only, will relieve the patient, which deduces the indications of cure from the phænomena of diseases, and afterwards confirms them by experience; by which means the great *Hippocrates* gained such an extraordinary character. And if the art of medicine had been delivered by any person according to this method, tho' the cure of a disease or two might have been made known to the multitude, yet the whole art would then have required more prudent and skilful men than it now does, nor would it have lost any credit thereby. For as the operations of nature, upon the observation whereof true practice is founded, are much more subtile than in any art, tho' established upon the least contested hypothesis; so, of course, the science of medicine, which nature teaches, will exceed an ordinary capacity in a much greater degree than that which is taught by philosophy.

*Practice
whereon to
be founded.*

51. We have a proof of this in fevers, which constitute two parts in three of the employment of physicians, and I appeal to any person of consideration for the truth of what I assert. For is there an empiric, tho' ever so illiterate, who will acknowledge himself unable to cure a fever, if, according to the generally received opinion, only these two indications are to be regarded, (1) to expel the morbid matter by means of sudorifics, and (2) to relieve the symptoms which succeed evacuations of this kind? For he is sure that *VENICE treacle*, *GASCOIGN's powder*, *plague-water*, and the like, given internally, along with a hot regimen, will force sweat; which is all he proposes in the cure of this disease, especially if, by accident, he hath heard of the term *malignity*. And as to relieving the symptoms, *diacodium* is in readiness to cause sleep, in case of watchings, and a *glyster*, as often as the belly is bound: and so of the rest. But he cannot of himself discover, or learn from his prescriptions, what species of fever it is which he attempts to cure, if we only believe, as posterity perhaps will, that there are various kinds of fevers, every one of which requires its peculiar method of cure different from the rest; and, further, that the same individual fever, of whatever kind it be, requires one

*Exemplified
in fevers.*

treatment at the beginning, and another somewhat different thro' all its stages, as long as it continues.

52. Now if a person be ignorant of the natural history of the disease, which only can point out the true method of cure, how shall he be able to deduce the indications of cure from some less remarkable symptom, when he cannot judge whether it proceeds from his method of cure, or the disease itself? It would take up too much time to enumerate the various and minute particulars that must be attended to in the cure of this and other diseases, which being so numerous, and so momentous, in order to the preservation of the lives of mankind, there will always be room for posterity to add to those observations, wherein the almost infinite variety of the operations of nature in the production of diseases, with the indications of cure thence derived, are delivered. Nor will the publishing such observations at all diminish, but rather add to the reputation of the art, which being rendered more difficult, only men of learning and sound judgment would be esteemed physicians. But these particulars by the way.

A fever arose from treating the cough unskillfully.

How cured.

53. When the abovementioned cough was unskillfully treated, it caused a fever, resembling that which was so very epidemic, in the winter of 1675, the history whereof we have already delivered. But as this fever was only a concomitant and an effect of the epidemic cough, I cured it by the same method which I have delivered above for the cure of that cough (1), viz. by bleeding, applying an epispastic to the neck, and afterwards purging thrice. For tho' no time was fixt for the continuance of purging in a cough unattended with a fever; which, as I observed above, is to be continued till the symptoms be considerably abated, or the patient recover; yet in the fever proceeding from the cough, purging for three days proved sufficient to conquer it; as I have frequently observed in the constitution under consideration.

Join'd at the beginning with defluxions upon the lungs.

54. But it is to be noted here, that tho' this fever was accompanied with violent defluxions upon the lungs at the beginning, yet in a month or two afterwards, when the collection of serum was gradually expelled the blood, the fever manifestly appeared to be of the same kind, tho' it was unattended with a cough, the

(1) See. V. Chap. V. pag. 211.

the blood not having yet recovered its healthy state, so that it did not require a different treatment from that which the cough accompanied.

55. This fever continued in the abovementioned manner till the beginning of 1680, when I wrote these observations, and as the year advanced intermittents arose, which remained without any alteration, till the beginning of 1685, when I was preparing this second edition for the press. And tho' they are less epidemic in this city now than they were during the first four years, and likewise milder, yet they rage as violently in other places as they formerly did. For the general constitution still favours intermittents, so much, that I can affirm that I have not hitherto met with a continued fever, unless it proceeded from wrong management; or was one of those *intercurrents*, which generally happen every year: so powerfully does this constitution tend to produce intermittents. And doubtless the force thereof must be weakened, before that which I call the *depuratory continued fever* can become epidemic. For in the intermittent species nature seems to operate with too much haste and violence, running thro' the stages of the concoction and despumation of the morbid matter too soon: which happens otherwise in the depuratory fever, wherein the signs of the concoction of the febrile matter to be expelled, sometimes by sweat, or rather by a freer perspiration, do not appear before the *thirteenth* or *fourteenth* day.

Continued till the beginning of 1680.

56. These particulars being well considered, I doubt not that the epidemic *depuratory* fevers of the years 1661, 1662, 1663, and 1664, were only the remains of certain intermittents which had prevailed for a course of years before: but how long they prevailed I know not. For when the constitution which favoured intermittents became milder and declined, the fevers it afterwards generated were more humoral and earthy, whence the depuration of the blood went on by slow degrees; whereas those in the first years of this constitution were produced by more subtil principles, and, being intermittents, generally finish'd their course with speed. Now, allowing this to be the case, it seems probable to me, that this depuratory fever will return as soon as the present constitution abates a little, and continue for a certain term of years, before the plague arises.

The depuratory fevers of 1661, 1662, 1663, and 1664, only the remains of some intermittents.

*The bark
where likely
to do mis-
chief.*

57. But throughout those years in which this fever shall prevail, (how many soever they may be) intermittents may at times appear, and perhaps prove epidemic for a short space, namely when some manifest temperature of the air shall contribute thereto. Whether the bark will cure this fever as certainly as it usually does the present reigning intermittents, I cannot say: but if it be given in the plague, and the continued epidemics which will regularly follow this, we must expect the same effects from it, which we now find it produces in the *pleurisy*, the *peripneumony*, *quinsey*, and the like inflammatory fevers, in which disorders it not only does no service, but is manifestly pernicious. But however this be, epidemics will succeed each other hereafter, in the manner above delivered, provided nature does not deviate from the order it hath kept for these last twenty four years.—And these, Sir, are the principal observations I have made of the epidemic diseases of the foregoing years.

*Mischief of
curing the
rheuma-
tism by co-
pious bleed-
ing.*

58. As to the cure of the *rheumatism*, which you likewise desire to be informed of, I have frequently regretted, as well as you, that it could not be accomplished without the loss of a large quantity of blood by repeated bleeding; whereby the strength is not only impaired for a time, but weak persons are usually more disposed to other diseases for some years; when the matter occasioning the rheumatism afterwards falls upon the lungs, the latent indisposition in the blood being stirr'd into action, by taking cold, or some other slight cause. These reasons induc'd me to search after some other method of curing this disease, different from such repeated bleeding. And having well consider'd, that it seem'd to proceed from an inflammation, as appears from the other symptoms, but especially from the colour of the blood, which exactly resembles that of pleuritics; I judg'd it might probably be as successfully cur'd, by a plain cooling and moderately nourishing diet as by repeated bleeding; and the inconveniencies likewise attending that method avoided. Accordingly, I found that a diet of *whew* used instead of bleeding had the desired effect.

*Whew ad-
vantageous-
ly us'd in its
stead:*

*Illustrated
by a case.*

59. I was called last summer to Mr *Malthus*, an apothecary in my neighbourhood, who was afflicted with a
fevere

severe rheumatism, accompanied with the following symptoms. During the first two days he was attacked with a lameness in his hip, which was succeeded by a dull pain of the lungs, with a difficulty of breathing, which likewise went off in two days; then he was seized with a violent pain of the head, and soon after with a pain of the right hip, which was first attacked; and afterwards almost all the joints of the arms and legs were affected by turns, according to the nature of the disease. As he was of a weak and dry constitution, I was apprehensive that by taking away much blood his strength, which was already considerably impaired, might be wholly spent, especially, as the summer was so far advanced, that it was to be feared that winter would come, before he could recover his strength debilitated by frequent bleeding; and therefore I ordered him to live upon whey only for four days, after which I allowed him white-bread, besides the whey, for his common food, namely once a day, instead of a dinner, till he recovered. Contented with this slender diet, he persisted in it eighteen days, only towards the latter end I permitted him to eat white-bread at supper also. He drank a gallon of whey every day, which afforded him sufficient nourishment. At the end of this term, when the symptoms were gone off, and he got abroad, I allowed him to eat flesh, as boiled chicken, and other food of easy digestion. But every third day he lived upon whey only, till at length he recovered, having escaped the inconveniencies I mention'd above, which had been very troublesome ten years before, when repeated bleeding was used by my order for his cure.

60. If any one should lightly esteem this method, on account of its inelegance and plainness, I must tell him, that only weak minds slight things because they are common and simple; and that I am ready to serve mankind, even at the expence of my reputation. And I must add that, were it not for the prejudice of the vulgar, I am certain that this method might be suited to other diseases, which I shall not now enumerate. And in reality it would be much more serviceable than the pompous garlands of medicines, with which such as are ready to expire are crowned, as if they were to be sacrificed like beasts (*m*).

This method not to be contemned for its plainness.

61. But

(*m*) The admirable and approved virtues of whey appeared so well

61. But that the most common things may be so ordered by a skilful physician, as to prove preventive of imminent death, will appear from the following observation; which, tho' it hath no relation to the disease under consideration, is not quite foreign to my purpose. About two months since a person in my neighbourhood desired me to visit his servant, who had taken a large quantity of *mercury sublimata*, being melancholy mad for love, as I afterwards heard. The poison had been swallowed near an hour when I came, and his mouth and lips were much swell'd; he was extremely sick, had a burning pain in the stomach, and was almost kill'd with heat. I ordered him to drink three gallons of warm water as quick as possible, and to take a large draught of the same after each time of vomiting; and

as

well deserving notice to Dr *Hoffman*, that he wrote a dissertation to recommend it to more general use. The ancients, he observes, highly esteem'd it, and frequently us'd it in these disorders, which proceed from an acrimony of the juices, as ulcers of the lungs, bladder and kidneys, the leprosy, various eruptions of the skin, and ulcerations of the fleshy parts, and obstructions of the *viscera*, &c. They often prescrib'd it to be taken in a large quantity, and continued for a considerable time; but with this caution and difference, that when only the first passages required cleansing, it was to be drank more sparingly, and only for a few days, but more copious and longer in deeply-rooted and obstinate diseases.

The author recommends it in a *Hypercatharsis*, whether occasion'd by drastic purges, or some kinds of poison, the scurvy, all diseases proceeding from, or attended with, an acrimony or foulness of the juices, hypochondriac and hysteric complaints, and in the beginning of a dysentery. He further tells us that 'tis a safe and excellent laxative in all kinds of fevers, the small-pox, measles, and all feverish disorders, exhibited by itself, or with *manna*, *syrup of rhubarb*, *cream of tartar*, *sal polychrestum*, and the like dissolved therein, as the case demands. He adapts the quantity to the circumstances, directing a pint to be taken at several times in the morning, by persons of a weak stomach, and a quart by those of a strong constitution; and sometimes repeating it in the afternoon, but in a less dose, and always limiting the time of the course to the duration and obstinacy of the disease.

He observes that if milk be suffered to stand till it grows sour, or its whey be separated by the admixture of an acid, it is much injured thereby, loses its grateful sweetness, and rather contracts an acidity, which renders it disagreeable to the human body. To avoid these inconveniences, therefore, he makes a whey in this manner: He evaporates a quantity of new milk, over a gentle fire, to driness, keeping it constantly stirring, to prevent burning; then pouring as much water to the remainder, as there has been milk exhaled, he boils them together for a few minutes, and, lastly, strains off the liquor for use. *Dissert. de salub. ser. lact. virtut. sparsim.*

as soon as it appear'd, from the gripings, that the poison was going downwards, I likewise directed warm water, alone, to be plentifully thrown up by way of glyster, in order to wash his bowels. The wretch complied, being now very desirous to live, and drank several pints of water more than I had directed. He told his friends that were by, that the water which first came up was very acrid, by reason of its being saturated with the poisonous salt; but that it was less acrid after every vomiting, till at length it became insipid; and the gripes that succeeded were remedied by injecting water alone glysterwise. By this simple method the patient was recovered in a few hours, only the swelling of his lips did not immediately fall, and his mouth remained ulcerated; occasioned by the particles of the poison, which came up with the water by vomiting: but these symptoms yielded in four days to a milk-diet. I preferred water to oil, (which is generally used by the less knowing without success) and all other liquors, because being very thin, it seemed fitter to absorb the particles of this poisonous salt, than any other liquor that was thicker, or already impregnated with the particles of some other body.

62. But to return to the *rheumatism*: how suitable soever a milk-diet may be in young persons, and such as have lived temperately and by rule; 'tis notwithstanding unsafe to treat the aged in this manner, and such as have long accustomed themselves to too free an use of wine and other spirituous liquors; for it injures their stomachs, and by considerably chilling the blood, disposes to a dropy. In this case therefore 'tis highly proper to use nearly the same method of cure, which I have already delivered (n): tho' since I wrote that, I have found by experience that 'tis better after the second or at most the third bleeding, to purge often, 'till the symptoms go off entirely, than to trust to bleeding only. For purging being an assistant to bleeding in the cure of this disease, it will not be necessary to lose so much blood; and besides by this means there will be place left for opiates, which otherwise must be refrained, how severe soever the pain might prove, because they fix the disease, and it does not yield so easily to bleeding. But the purgatives should be of the milder kind, as *tamarinds*, *senna*, *rhubarb*, *manna*, and *solutive syrup of roses*; for

The aged in a rheumatism not to be treated by a milk diet.

(n.) Sect. VI. Chap. V.

for such as are made of *scammony*, *jalap* and the like, occasion great disturbance, and increase the pain. And every evening, after the purge has done working, let an ounce of *diacodium* be given somewhat earlier than ordinary.

A remarkable symptom accompanying intermittents.

63. It is to be noted here, that during the present constitution I have observed a certain symptom, which, in respect of the violent pain in the loins, resembles a *nephritic pain*, and being accustom'd to succeed intermittents, proceeds from a translocation of the febrile matter to the muscular parts of the body. But this symptom did not require a different treatment from the intermittent which it accompanied; for it is exasperated, and life endangered by frequent bleeding, or any other evacuation.---I judg'd it proper to drop this short hint concerning it, that no one might be deceiv'd thereby.

64. And these, worthy Sir, are the particulars which I have learnt from diligent observation, relating to the diseases which are the subject of your enquiries; and if they prove acceptable to you, or useful to others, I have gain'd my end: at least I enjoy the satisfaction of having done my duty by complying with your request in the best manner I am able, who am

Your most devoted servant,

THO. SYDENHAM.

An

An EPISTLE *of* Dr HENRY PAMAN *to* Dr SYDENHAM.

Worthy Sir,

THE healing art hath received great improvements from your compleat history of *acute diseases*, founded upon accurate observation, and faithful experience; which you have written with an upright and honest view, and not to acquire riches or fame: whereas you might have sat down content with having done your duty, in attending your patients, and serving the present age to the best of your ability. I have hitherto conceal'd my desires, but I suppose you already foresee what I am going to request. He that commends your works, encourages you to do something which may still add to your reputation. 'Tis a difficult task to treat of *acute diseases*, because they run thro' their states so speedily, that unless they be seasonably check'd, life is eminently endangered thereby; no medicines being afterwards powerful enough to prevent death. But you have enumerated their symptoms, and directed what is necessary to be done in every exigency. In effect, your essays on this subject are a finish'd performance, and could admit of no addition, had not you promis'd us a treatise of *chronic diseases*; which may be respited, and allow time for enquiry.

We have frequently convers'd together concerning the *venereal disease*, the infamous origin whereof the *Europeans* sollicitously endeavour to clear themselves of, and, to make its traces still more obscure, derive it from the remotest *Indies*. 'Tis a fit punishment for the unbridled lust of the lascivious, and perhaps the cure is attended with greater difficulty, that the repentance may be proportioned to the crime. And he seems to have been touch'd with a sense of humanity and sin at the same time, who openly wish'd that this distemper might be only once cured.

But as the cure of it often falls into the hands of
empirics,

empirics, barbers, and such unskillful persons, they either fraudulently or ignorantly prolong it for such a length of time, to the great expence and greater affliction of the patient, that life becomes burthensome to him thro' the violence and tediousness of the process, and the disease a less evil than the cure.

I intreat you, therefore, as a friend, to fulfil your promise, and publish your remarks on this disease first, as an earnest of the rest. Inform us truly by what method and medicines it may be best cured: for 'tis enough for the patient to be punish'd by heaven, and not to be tormented more severely by his physician. Such a work would be well received by many persons; and I should have some share of the praise that will thence accrue to you, on account of your publishing it at the request of

Your most obedient servant,

Lambeth House,
Feb. 12, 1688.

H. PAMAN.

Dr SYDENHAM's Answer to HENRY PAMAN, M. D. Fellow of St John's College in Cambridge, publick Orator of that University, and Professor of Physic in Gresham College; containing the History and Treatment of the Venereal Disease.

Worthy Sir,

*The author
thinks
meanly of
himself.*

1. **T**HO' in civility to me you term my late treatise on *acute diseases*, a finished performance; yet so conscious am I of my own inability and its defects, that I reckon I have only pointed out the way, by pursuing which men of greater abilities may be enabled to investigate the history and cure of these diseases.

*How nature
acts in pro-
ducing a-
cute dis-
eases, hard
to be dis-
covered.*

2. And, in reality, so various, uncertain and subtile is the procedure of nature in the production of these diseases, that the oldest physician living is not able to describe their different symptoms, and the methods of cure adapted thereto with accuracy. Such a work would afford sufficient employment for any ten physicians, succeeding each other for as many ages, supposing them
also

also to be men of eminent skill, indefatigable industry, and very extensive practice, which may furnish them with numerous observations: so far am I from having attain'd, or imagining I ever shall attain the art of physic.

3. As to those *chronic diseases*, the history whereof I promised you to write, my thoughts are so fully turned that way, that I wish my life may be prolonged for this reason chiefly, that, by an attempt of this nature, I may be serviceable to mankind. But the experience of every day convinces me how difficult and hazardous an undertaking this is, especially for me, whose abilities are unequal to the task; for among medicinal writers, excepting *Hippocrates*, and a very few others, we meet with little to direct the mind in its enquiries into so intricate a subject; the assistance and light which authors promise, being rather false than true lights, which tend to mislead, and not to direct the mind in its researches after the genuine procedure of nature. Most of their writings are founded upon *Hypotheses*, which are the result of a luxuriant imagination; and the symptoms of diseases (wherein their true history consists) as described by them, appear to be deduc'd from the same source; and the method of cure, also, is deriv'd from the same fictitious principles, and not from real facts, and thus becomes most destructive to mankind: so full of specious reasonings is every page of the writings of such superficial men, whilst the directions of nature are overlooked. But notwithstanding these obstacles, if God should prolong my life, and I can find leisure, I may perhaps put my abilities to the test. In the mean while, to convince you of my readiness to serve you, I present you with this short dissertation on the *venereal disease*, as a specimen of the whole; it being the only one I have yet prepared for the press.

Difficult to treat of chronic diseases.

The history and treatment of the venereal disease.

4. But in the first place I must observe to you that I have met with several, who either with a good intent, in order to deter the incontinent from their vicious practices, by the apprehension of the succeeding punishment, or to acquire the character of chaste persons, have not scrupled to assert that the cure of the *venereal disease*

The cure of the venereal disease, why not to be conceal'd.

disease

ease ought to be kept secret. But I cannot be of their opinion; because I conceive that there would be very little room left for charity, unless the misfortunes which the inconsiderate bring upon themselves by their own fault, were to be alleviated with humanity and tenderness. It belongs to God to punish the offence, but 'tis our duty to assist the distress'd, and relieve the diseased to the best of our power, and not to make too strict an enquiry into the cause of the evil, and irritate them by our censures. For this reason, therefore, I will deliver what I have observed and experienced in this disease; not that I intend to make men's minds more vicious, but to cure their bodies, which is my province.

Whence and
a. what
time
brought to
Europe.

5. The *venereal disease* was first brought from the *West-Indies* into *Europe*, in the year 1493, for before that time the very name of it, as far as we can collect, was unknown amongst us; whence this disease is generally reputed to be *endemic* in those parts of *America*, where we first planted our colonies (a). But to me it rather seems to have taken its rise from some Nation of the *Blacks* upon the borders of *Guinea* (b); for I have been informed by several of our countrymen of great veracity, who live in the *Caribbee* islands, that the slaves which are newly brought from *Guinea*, even before they land, and likewise those that live there, are afflicted

(a) That the *venereal disease* was known neither to the *Greeks* or *Romans*, should seem probable from the silence of all their physicians for at least two thousand years, and its not having been mention'd by the ancient historians, poets, and other old writers of both nations. And as a further proof of this assertion, we may urge the authority of all the physicians, who liv'd at the time of the first eruption of this disease, who in general agree, that it was first brought into *Europe* towards the close of the fifteenth century; that in symptoms it differed from every other distemper, that had ever been known or observed; that the infection was propagated throughout *Europe* from the kingdom of *Naples*, where it first spread itself amongst the *French* and *Neapolitans*; and lastly, that it was imported to *Naples* by the *Spanish* soldiers, who serv'd under *Christopher Columbus*, from the *West Indies*. *ASTRUC of the venereal disease, the English translation, vol. I. book I. chap. I.*

(b) This notion is directly contrary to matter of fact; for it is certain that no *Blacks* were transported into *Hispaniola* before the year 1503. But this disease was contracted by the *Spaniards* in *Hispaniola* in the year 1493, was carried into *Spain* the same year or in the year following, and from thence into *Italy* in 1494, or 1495, where it infected the *French* and *Neapolitans*, and by them was soon after spread all over *Europe*. *Id. chap. XI.*

afflicted with this disease, without having lain with an infected woman; so that it frequently seizes whole families, both men, women and children. And, as far as I can learn, this disease, which so frequently attacks these miserable people, does not at all differ from that we call the *venereal disease*, with respect to the symptoms, viz. the pains, ulcers, &c. allowing for the diversity of climates; tho' it goes under a very different name, for they entitle it the *yaws* (c). Nor does their method of cure differ from ours, for in both cases a salivation raised by quicksilver carries off the disease; notwithstanding what we say here of the excellent virtue of *guaiacum* and *sarsaparilla* in those places where they grow, which is judg'd to be nearly lost in their long passage to us.

Called the
yaws in
some parts
of America.

6. It should seem, therefore, that the *Spaniards*, who first brought this disease into *Europe*, were infected with it by contagion communicated from the *Negros* which they purchased in *Africa*, in some part whereof this disease may be *endemic*: for the barbarous custom of exchanging the natives with the *Europeans* for merchandize prevails in many places upon the borders of *Guinea*. However this be, this contagious distemper, spreading by degrees, so infected these parts, that if it had proceeded with the same rapidity wherewith it began, it would in a few ages have destroyed mankind, or at least have made the world an hospital, and rendered its inhabitants entirely unfit for the discharge of every social duty. But like vegetables, being transplanted from its native place to a foreign climate, it flourishes less in *Europe*, languishing daily, and its symptoms growing gradually milder. For at the first appearance thereof, when a person was seized with it, it quickly infected the whole mass of blood, occasioning violent pains of the head and limbs, and discovered itself by ulcers in various parts (d). But it is an hundred years since it first manifested itself by a kind of *virulent gonorrhœa*, which kind of appearance it yet retains, endeavouring to go off by this discharge; and 'tis at-

The Spaniards sup-
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have got it
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Grows gent-
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Europe.

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(c) This disease, says Dr *Turner*, in *Guinea* is called by the name of *yaws*, as I have heard from some sailors, as also from the captain of a ship, who have frequently made that voyage, and as I have reason to believe from an instance or two, I may very probably communicate hereafter. See his *Siphylis*, 4th edit. p. 6, 7.

(d) This will appear manifest by consulting the learned *Astruc's* elaborate treatise on this disease; vol. I. book I. chap. XII, XIII.

tended with no other apparent symptom, except in some few persons, who are seiz'd in the beginning with a small ulcer of the *pudenda*, commonly called a *shanker*, the virulence whereof not being expelled by a *gonorrhœa* immediately infects the blood.

How propa-
gated.

7. This disease is propagated, either (1) by generation, whence 'tis communicated to the infant thro' the crime of one of the parents; or (2) by touching some soft part, by means whereof the virulence and inflammation are communicated to the body, in the following manner; as (1) by sucking: thus the child may infect the nurse by the fine pores of the nipples of the breast; or the nurse the child by its tender mouth. (2) Children may gain the disease by lying in bed with infected persons (*e*). For tho' grown persons, whose flesh grows firmer

(*e*) When the *venereal disease* first made its appearance in *Europe*, it was reputed *epidemic* and *contagious*; but truth at last prevail'd, and it is now known by certain and indubitable experience, and the unanimous consent of all physicians, that it can neither be contracted by an error in diet, the fault of the air, the abuse of the non-naturals, or any spontaneous corruption of the humours, but solely by infection, and the communication of it from one that is diseased.

This communication is made (1) either by generation, the poison being transmitted by the parents, whilst the tender body of the embryo is form'd: or (2) by contagion, the distemper being transmitted from a diseased person to a sound one. The first I much suspect, having never seen the *venereal disease*, strictly so call'd, and distinguish'd by the pathognomonic symptoms of the distemper, communicated from parents to their children; which has made me imagine that physicians have been somewhat too credulous in this affair, that if possible they might consult the reputation of their patients, by assigning, if not the real, at least a probable cause of their indisposition, and by that means acquit them from blame. The second is the most certain way of communication at least; and this may be spread by three ways. (1) At a distance by an infected air; (2) by a diseased subject; and (3) by an immediate contact. Now it appears both from reason and experience that the *venereal disease* cannot be propagated by the first; and it does not seem to be plainly made out that it can be conveyed by the intervention of an infected subject; as by lying in the same sheets, wearing the same clothes, drinking out of the same cup, and wiping the mouth and lips with the same towel: as there is cause to suspect that the persons, who have assign'd such reasons for acquiring the distemper, have contracted it by other means, which out of shame they have dissembled. It is therefore mostly, if not solely communicated by the immediate contact of one diseas'd with some part of a sound person; as (1) by coition; (2) by the breast; (3) by kissing; (4) by lying with a person infected; and (5) by introducing the finger or hand into the places contaminated by a *venereal ulcer* or flux. The

firmer with age, can scarce be infected by this means without impure coition, yet the flesh of children being of a softer and more spongy texture easily admits the infection; which I have known got by lying in bed with infected parents. (3) The touching of a soft part, especially in impure coition, which is the most frequent way of gaining the disease; for the *penis* being turgid with spirits appointed for generation, readily imbibes the infection, from a venereal ulcer, or pustule in the *vagina*; both which lying hid in the body, the woman may nevertheless seem to be sound; the *virus* being so detained by the moisture of these parts, as to infect the blood very slowly, or, which oftner happens, being diluted, or in part expelled, by the menstrual purgations.

8. This infection, in my opinion, first attacks the fleshy substance of the *penis*, which it corrupts, first occasioning an inflammation, and afterwards, by degrees, an ulcer, from which the matter, that appears in a *gonorrhœa*, distills slowly into the *urethra*. I am inclin'd to believe that this is the case, because I have seen such a virulent matter ouze from the porous substance of the *glans*, and not discharged from the *urethra*, when there has been no ulcer either in the *prepuce* or *glans* (f). But at length penetrating deeper, it usually occasions an ill-conditioned ulcer of the *prostatæ*;

What part
first attack-
ed thereby.

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which

The two first of these ways of contagion are so well confirm'd by many and certain experiments, that they cannot be called in question; and abundance more are infected by these than by the three last; which is evidently confirmed by experience, as we have not above one or two instances of persons infected by kissing, lying in the same bed, or handling the parts diseas'd, whereas there are above a thousand, who, in the same interval of time, have caught the distemper from the breast, and more especially from carnal copulation. *Ib. Vol. 1. Book 2.*

Chap. 1.

(f) That this is a mistake in our admirable author I readily grant with *Astruc*, who, however, has pass'd too severe a censure upon him for it, in the following words.

They are mistaken who think with *Sydenham* that the venereal poison in men first attacks the fleshy substance of the *penis*, and having brought on an inflammation, and an ulcerous disposition upon that part, by degrees insinuates itself into the *urethra*, and supplies it with that corrupt matter that drops from it in a *gonorrhœa*; which is so far from truth, that its absurdity is now known to every barger-surgeon.

This gentleman is of opinion that a *gonorrhœa* is seated in the seminary receptacles both in men and women; and from hence makes four different species thereof in both sexes. *Ib. Vol. 1. Book 3. Chap. 1. Sect. 2.*

which is frequently found in the bodies of such as perish by this disease (g).

The various
symptoms of
the first
stage enumerated.

9. This disease proceeds in the following manner. The patient, sooner or later, (according as the woman with whom he has lain was more or less infected, and according as his constitution renders him more or less dispos'd to receive the infection) is first seiz'd with an uncommon pain in the parts of generation, and a kind of rotation of the testicles; and afterwards, unless the patient hath undergone circumcision, a spot, resembling the measles in size and colour, seizes some part of the *glans*, soon after which, a fluid like *semen* flows gently from it; which differing every day therefrom, both in colour and consistence, does at length turn yellow, but not so deep as the yolk of an egg; and when this disease is more virulent and severe, becomes green, and is mix'd also with an aqueous humour, copiously streak'd with blood. At length, the pustule or spot terminates in an ulcer, at first resembling the *aphthæ* in the mouths of children, which spreads and eats deeper every day, and the lips grow callous and hard. But it must be observed that this pustule is seldom attended with a *gonorrhœa* in those who have formerly had this disorder, or whose *glans* is bare; the hardness and firmness which this part acquires by being expos'd to the air, and the frequent chafing of their linnen, rendering it less apt in such persons to receive the infection; and for this reason those that are circumcis'd seldom have an ulcer of the *glans*, but only a *gonorrhœa*.

10. The *gonorrhœa*, or running, is soon succeeded by other symptoms; as (1) a great sense of pain upon every erection of the *penis*, as if it were violently squeez'd with the hand; this happens chiefly in the night, when the patient begins to be warm in bed, and I esteem this painful constriction of the *penis* the distinguishing sign in this state of the disease. (2) The *penis* likewise bends, occasioned by the contraction of the *frænum*, which being naturally stretch'd in every erection, causes violent pain (h). There is likewise (3) a heat

(g) The author doubtless means upon dissection, without which the *prostatæ* do not come in view.

(h) This and the former symptom are indiscriminately term'd, by some writers, a *cordee*, or *priapismus*.

heat of urine, which is scarce perceived in voiding it, but immediately after the patient feels an extreme heat throughout the whole duct of the *urethra*, especially at its termination in the *glans* (i). And sometimes (4) the *urethra* being excoriated by the continual flux of acrimonious matter, and nature too hasty in generating new flesh, the part is supplied with a loose, spongy flesh, which growing every day larger and harder, forms *caruncles*, which obstruct the urinary passages, so as at length to hinder the passage of the urine; and these *caruncles* also emit a certain *ichor*, which proceeds from the little ulcers adherent thereto, and greatly hinders the cure, occasioning a disorder more to be apprehended than death itself. Moreover, (5) it often happens that the matter which should have been discharged by the *gonorrhœa* is thrown upon the *scrotum*, either by violent motion, or the use of astringents, and causes a violent pain and inflammation, with a considerable swelling sometimes of one, and sometimes of both the testicles; the *gonorrhœa* in the mean time abating, but the heat of urine remaining equally troublesome. These are the common symptoms of this disease, during this state thereof.

II. But when, by the continuance of the disease in those parts, the virulence is communicated to, and by those of the second state. degrees corrupts the blood, or when a putrefaction of the juices is occasioned by the retention of the virulent matter in the body, the *true pox* arises; in which (1) swellings, or buboes, appear in the groin, and constitute the first degree thereof. (2) Then violent pains seize the head, and the limbs between the joints, as the shoulders, arms and legs, which attack by intervals, and keep no stated order, except that they generally come in the night as soon as the patient is warm in bed, and do not cease till towards morning. (3) Scabs also and scurf appear in various parts of the body, which are of a yellow colour, like a honey-comb; by which mark they may be distinguished from all others; and sometimes they are very broad, and resemble the leprosy, as it is described in the writings of physicians: and the more this scurf spreads, the easier the patient becomes. All the symptoms increase by degrees, and particularly the pain, which at length becomes so in-

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tolerable,

(i) This is ordinarily entitled a *dysuria*.

tolerable, that the patient cannot lie in bed, but is forced to walk about his chamber in a restless manner till morning. Moreover (4) the severity of the pain occasions hard nodes, called *exostoses*, to grow upon different parts of the skull, and the bones of the legs and arms; which resembles the bony excrescencies upon the legs of horses, usually termed the *spavin*: And (5) these bones, from the continual pain and inflammation, do at length grow carious, and putrefy. (6) *Phagedenic* ulcers likewise break out in different parts of the body, which generally begin first in the throat, and by degrees spread thro' the palate to the cartilage of the nose, which they soon consume; so that the nose for want of its support falls flat. (7) The ulcers and pain increasing every day, the patient, wasted partly by the continued, pain, and partly by the ulcers and corruption, leads a life far worse than any kind of death; thro' the stench, corruption and shame attending it, till, at length, his limbs rot away after each other, and the mangled carcase, being odious to the living, is buried in the earth (k).

The author ignorant of the essence of this disease.

Caus'd by a very inflammatory humour.

12. As to what is term'd the intrinsic and *essential* nature of this disease, I am as ignorant of it, except as it appears from the symptoms just enumerated, as of the essence of any plant or animal. But however that be, I am persuaded that the humour occasioning this disease is of a very inflammatory nature, and ought to be evacuated by such means as experience shews to be most effectual; no intermediate specific being yet discovered, whereby it may be cured without any preceding evacuation. For neither *mercury*, nor the *drying woods* are to be accounted specifics, unless can be prov'd by examples,

(k) How emphatical, full and accurate a description is this of the beginning and progress of the *venereal disease*! This appears to be copied from nature, and as long as the disease continues, will be a standing proof of the great experience of our author, and his close attention to the steps of nature. *Desault*, sensible that nothing could be added to this history thereof, has transcribed it in a treatise he wrote on this distemper, and at the conclusion of it makes this remark:

From this exact description which *Sydenham* has given us of the venereal disorder, it appears, that the *gonorrhœa*, *bubo*, *phymosis*, *paraphymosis*, shankers, warts, swellings, &c. differ only from the pox more or less; that the leaven which produces them all is the same, and that it is only from the difference of the parts seized, that these different complaints take their distinction. See his treatise on this distemper, the English translation. p. 7.

examples, that *mercury* has sometimes cur'd the *venereal disease* without a salivation, or a decoction of the woods without a sweat. Now having learnt by experience that the common sudorifics have been as effectual here, as a decoction of the woods; so I doubt not that if a remedy could be found, either in the vegetable or animal kingdom, of equal efficacy with mercury in raising a salivation, it would have the same effect in curing the *venereal disease* (1). But as this disease, when 'tis only a *gonorrhœa*, differs considerably from that which hath infected the whole mass of blood, and justly deserves to be entitled the *lues venerea*, so it requires a different kind of evacuation from that which is necessary in a confirmed *pox*.

13. With respect therefore to a *gonorrhœa*, of which we first treat, the whole of the cure, as far as we have yet

The cure of
a virulent
gonorrhœa

U 4

(1) Dr *Turner*, having given a short historical account of *mercury*, has the following observation:

And thus far of this great and principal remedy, its use and abuse in this distemper; which, however, our countryman Dr. *Sydenham* would not allow to be properly a *specific*, or in a strict sense *alexipharmic*, to the venereal poison; because, saith he, it produceth its effects no other ways than by purgation, salivation, or other manifest evacuation; and that if any other medicine would excite a *ptyalism*, or spitting, it would be also a specific thereunto. But I am apt to think the suffrage of the best practitioners, as to this particular, lies against him, as also matter of fact itself; for at this rate other purging medicines might subdue the *virus* of the disease as well as mercury, which is found quite otherwise: it being plain that by twice purging therewith, you shall gain more upon the malignity thereof, than by many more, without; and that the same is observed at some times to increase under other cathartics. See his *Siphylis*, 4th edit. p. 152, 153.

To this we may add what *Astruc* advances, which also invalidates our author's argument against mercury, as a specific.—We have long since learnt from experience, says he, which is superior to any argument, that mercury, even tho' it brings on no salivation, shall notwithstanding produce the same effects in the blood, as though a plentiful salivation had been raised, provided that it enters the blood in a due quantity; and therefore that it shall attenuate the fluids, scour the vessels, restore the oscillatory motions of the solids, remove the obstructions, dispel the venereal poison, and absolutely extirpate the disease. See his treatise of the *venereal disease*, Vol. 1. p. 227.

Desault's method, which consists in a continued course of *mercurial unction*, checking the salivation when it rises, by purgatives, and using a mercurial water for common drink, is also a proof that mercury will cure without salivating; of which he produces many instances. *Hoffman* also delivers a peculiar method of curing the *venereal disease* by mercury without raising a salivation. Vid. *Hoffm. Oper. tom. 3. p. 321.*

yet experienced, turns upon purging medicines; by means whereof the peccant matter is either evacuated, or the natural juices of the body drain'd off, which would otherwise feed the disease. But tho' both reason and experience intimate that it may be cured by any cathartic, provided it be frequently repeated, and continued for a considerable time; yet such strong purgatives, as evacuate bilious, but especially watery humours, seem best for this purpose: and therefore I have sometimes recovered persons in low circumstances by *jalap root* only. But as the disease is attended with a manifest inflammation, and the purgatives to be exhibited in order to the cure are likewise hot, a cooling diet must be directed throughout the whole course.

By purging. 14. For this reason I generally prescribe as follows:

*Purging
pills.*

Take of the greater pil. cochix, three drams; extract of rudius, one dram; rosin of jalap, and diagrydium, of each half a dram; opobalsamum, enough to make the whole into a mass, each dram whereof is to be made into six pills.

Four of these pills are to be taken every morning at four or five a clock, (that the patient may sleep upon them) for twelve or fourteen days running, or longer, namely till the heat of urine and the yellow colour of the running be greatly abated, after which I esteem it sufficient to purge every other day for another fortnight; and then the pills may be taken only twice a week, till the running ceases, which commonly continues several days afterwards. For tho' it be ordinarily affirmed, that after the heat of urine, and the yellow colour of the running are gone off, the *ichor* which appears, especially in the morning, upon the top of the *penis*, from which a drop or two may be squeezed with the finger, proceeds only from the weakness and laxity of the parts, occasioned by the long continuance of the contagious matter therein; yet the patient finds to his great prejudice that this is the remains of the disease not thoroughly overcome; for tho' it be conquer'd in some measure, yet upon any slight occasion, as by excessive drinking, any violent exercise, or the like, it begins again, and the *gonorrhœa* returns, that is, if the purging be

be discontinued before the disease is perfectly cured (*m*).

15. If the *gonorrhœa* does not yield to this course of purging, it will be proper between whiles, (especially in such as are not easily purged) to give some stronger purge instead of the pills, as the following potion, which having been taken only once, hath proved more effectual sometimes in stopping a *gonorrhœa* than the frequent repetition of lenient cathartics.

Strong purgatives sometimes requisite.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them in a sufficient quantity of water, to leave three ounces of the strain'd liquor; in which dissolve manna and solutive syrup of roses, of each an ounce; syrup of buckthorn, and electuary of the juice of roses, of each two drams; mix them together.

A strong purging draught.

Or when the cure goes on slowly, exhibit eight grains of *turbith mineral*, only twice or thrice, at proper intervals,

(*m*) With respect to purging, it should be observed that all rough and hot purgatives are to be forborn in weakly and broken constitutions, and especially where the disorder is attended with great heat and pain in making water; because they exasperate this painful symptom, by over-heating the patient. In this case therefore I direct a purging apozem to be prepar'd of *pearl barley*, *marshmallow roots*, the leaves of *mallows*, and *fennel seeds*, boiled in enough water, to a pint and half, dissolving a sufficient quantity of *manna*, and *GLAUBER's salt* in the strain'd liquor: to be drunk warm, about five or six ounces at a time, at such intervals that the whole may be taken in four or five hours.

On the intermediate days of purgation, I prescribe powders to be taken every four hours, made of *chalk*, *nitre*, *camphire*, and *cochineal*, in a solution of *gum arabic* in *barley-water* sweetned with fine sugar. And when by this means the heat and pain in making water abate, I exhibit mercurial purges, if there be occasion, and the habit be strong enough to bear them, but with great caution; being abundantly convinced that they sometimes do mischief, however discreetly us'd.

For as *Astruc* rightly observes, by the use of *mercurials* the stomach is weakened, and the strength impair'd, which is a thing of no small moment; but what is of much greater, the acrimony of the blood is thereby so increased, that the ulcers that lay conceal'd in the feminary receptacles, from the bad quality of the blood being increas'd, become more malignant, and are much more difficult to heal. I am sure I have often seen, continues he, and I doubt not but several other physicians have seen the same, that *mercurials*, us'd even with caution, have brought on afresh a *dysuria* that was going off, and a running that was just finished, restoring it to its virulency, as its yellow and green colour sufficiently evidenc'd. See his treatise of the ven. disease, vol. I. p. 278. Sect. 6.

tervals, lest it occasion a spitting: and this is the most powerful remedy to conquer an obitinate *gonorrhœa*. Or the following pills may be given twice a week.

Strong
purg-
ing
pills.

Take of pil. ex duobus, half a dram; mercurius dulcis, one scruple; opobalsamum enough to make them into four pills, to be taken betimes in the morning.

Glysters to
be injected
where in-
ternals can-
not be ta-
ken.

16. But sometimes the patient hath such an aversion to repeated purging, that he cannot abide the sight or smell of the medicines. And sometimes a peculiarity of constitution obtains, so that the strongest purgatives avail not, whence a sufficient evacuation of the peccant matter cannot be made; and whilst we solicitously, but fruitlessly endeavour to effect the cure by this means, the disease at length advances, and becomes a true *pox* in such habits. In these cases, therefore, recourse is to be had to glysters, which will answer both indications; (1) by evacuating the humour, and (2) making a revulsion from the part affected. Besides, this method is sometimes more expeditious than the former, tho' in my opinion 'tis not equally safe; for tho' the former be more tedious, as requiring longer time, there is notwithstanding less danger of leaving a part of the contagious matter in the bowels, to cause fresh disturbance afterwards: but this inconvenience may easily be prevented by exhibiting cathartics on the intermediate days, in order to assist the glysters (n).

17. Wherefore

(n) This method of giving glysters seems to have been peculiar to our author; no one besides himself, so far as I know, having advised it; how it may answer I cannot say, having never met with a constitution that would not bear purgatives of some kind or other. But if this be the case, to what purpose is it to have recourse to them on the intermediate days, in order to assist the glysters; which, for want of operating, they cannot do, but should rather seem to increase the evils, by occasioning fruitless disturbance?

Dr Turner observes that the cure by glysters, which were contriv'd for those whose aversion to medicine is insuperable, is by throwing up half an ounce or six drams of the *terebinth. ven. cum ovi vitel. solut.* once a day, and sometimes twice; if only once, it may be made more purgative with the *conf. hamech*, for the stronger sort, or the *elect. de suc. ros. diacatholicon lenitivum* for the weaker; but this method, says he, (unless the cure be promoted by giving some mercurial cathartic between whiles, and some balsamic also when the *virus* is taken off) is scarce to be confided in: nor have I known (unless very rarely) that it has answer'd the expectation. See his *Siphylis*, p. 79, 80. 4th edit.

17. Wherefore I proceed in this manner : I give the abovementioned pills, or others of a like kind, two or three mornings successively ; and then I order the following glyster to be injected twice a day, viz. in the morning, and at five in the afternoon, till the symptoms go off ; except that once or twice a week I exhibit a cathartic, omitting the glyster that day.

In what manner to be given.

Take of the electuary of the juice of roses, six drams ; Venice turpentine, dissolv'd in the yolk of an egg, half an ounce ; dissolve them in a pint of barley water, and to the strain'd liquor add two ounces of the universal electuary : mix them together for a glyster.

The purgative glyster.

Every evening at bed-time I give twenty five drops of opobalsamum, or balsam of Mecha, dropt upon a piece of fine sugar ; this medicine being a kind of pure liquid turpentine, has the same virtues, and does great service in ulcers of the *pudenda* ; but where this cannot be had, the quantity of a hazle-nut of *Cyprus* turpentine may be substituted instead thereof, to be taken in the same manner.

18. Whatever method of cure be us'd, the patient must during the process refrain from salt and spiced meats, and all others of difficult digestion ; as beef, pork, fish, cheese, roots, herbs, and fruit ; instead of which I substitute mutton, veal, rabbit, chicken, and other light food. And I order him to feed very sparingly upon these, taking no more than is sufficient to support the strength. I forbid wine of all kinds, and all spirituous, or acescent liquors, prescribing for his common drink milk boiled with thrice the quantity of water ; only at dinner and supper he may be allowed a little small beer. Moreover, in order to abate the inflammation, and heat of urine, I direct some cooling emulsion, prepared in the following manner, to be drank on the intermediate days of purging.

The regimen to be observ'd during the cure.

Take of the seeds of melons and pumpions, each half an ounce ; the seeds of white poppies, two drams ; eight blanch'd sweet almonds ; bruise them together in a marble mortar, pouring upon them by degrees a pint and a half of barley-water ; and lastly, sweeten the strain'd liquor with a sufficient quantity of fine sugar.

A cooling emulsion.

19. In

*Bleeding
when to be
used.*

19. In a very sanguine constitution, the disease at the same time being obstinate, after having spent a month or thereabouts in a course of purging, I generally advise eight or nine ounces of blood to be taken away from the right arm; but I am against bleeding sooner, lest the disease should be more confirmed thereby (o). I do not depend much upon injections into the *urethra*, because they ordinarily do much more mischief than service, either by their pungent acrimony, or stypticity: however, towards the declension a small quantity of *rose-water* may be injected.

*Purging to
be persisted
in longer in
such as are
hard to
purge.*

20. I am not hitherto acquainted with a more effectual and successful method of curing a *gonorrhœa*, especially in such as are easily purg'd; but in persons of a contrary disposition, tho' it never fails, yet it requires a long time to compleat the cure. In such persons therefore bleeding is to be repeated, and the purges must be made stronger, repeated oftener, and continued a longer time (p); or glysters must be injected as above-mention'd, purging being the capital remedy here. For it may be truly affirmed, with respect to this disease at least, that whoever evacuates sufficiently, makes the best cure; provided no *mineral waters* be used, which by their astringent and too healing virtue shut up the remains of the disease in the habit, which should have been carried off, and so render it more confirmed, as I have found by experience. Hence I have frequently observed swellings of the *scrotum* succeed from drinking them, at the beginning, or height of the disease, and more

*Mineral
waters bad
in this di-
stemper.*

(o) Where-ever bleeding is proper, it should seem best to begin with it, in order to guard against the inflammation and tension of the parts affected, and the painful heat of urine, which generally ensue; for experience shews that bleeding, so far from exasperating the disease, always renders the symptoms more mild, and of course facilitates the cure.

(p) We learn from experience that there are constitutions which resist the operation of very strong purgatives, but readily yield to mild ones; the great irritation caused by the former, drawing the bowels of such persons into violent spasmodic contractions, which close up the *anus*, whilst the latter, by relaxing and gently stimulating at the same time, work in a kindly and effectual manner. This observation, therefore, has its usefulness in practice; and is abundantly confirmed by some colics, where gentle cathartics answer the end, and in others where the strongest, however necessary, avail not at all, nor indeed can be safely given, unless join'd with an opiate, to abate the tension of the intestinal fibres, and by this means dispose the bowels to obey their operation.

more dangerous symptoms, as *caruncles*, when they were drunk towards the decline: and this I positively assert, notwithstanding *mineral waters* are ordinarily and frequently directed in the present practice in this case.

21. I am also well aware how much some practitioners boast of curing this disease in a shorter time, by means of remedies which bear a great name, but I have found by repeated observation that the matter which should have been expelled, being detained in the body by astringents, has proved highly detrimental to the patient, by frequently returning into the blood, and at length causing the *pox*. Nor is the decoction of the woods more effectual, tho' 'tis safer; for under a pretence of exhibiting specifics, the whole body, but especially the parts affected, already over-heated, are still more inflamed; and sometimes, as I have already observed, I have known the *gonorrhœa* return, which vanish'd a little before (q).

Astringents and decoctions of the woods hurtful.

22. But it must be observed that if the *glans* be totally covered by the prepuce, and the lips of it so swelled, hard and callous from the inflammation, that it can by no means be flipt back; 'tis a fruitless endeavour to attempt the cure of the *gonorrhœa* by purging, tho' the strongest cathartics be given, and repeated every day with this view; unless means be us'd at the time to reduce the part affected to its natural state by removing the hardness and swelling, which continually increase the *gonorrhœa*. For this purpose I direct the following fomentation.

Purging to be refrained in case of a phymosis.

Take of the roots of marshmallows and white lillies, each an ounce and half; the leaves of mallows, mullein, elder and henbane, and the flowers of camomile and melilot, of each one handful; the seeds of flax and fenugreek, each half an ounce; boil them together in a sufficient quantity of water, for a fomentation, to be applied to the part affected for half an hour, twice or thrice a day.

An emollient fomentation.

After fomenting I order the part affected to be anointed with fresh *linseed oil*, and then apply the *mucilage plaister* spread on leather to the swell'd lips of the prepuce. But if the ulcer in the lips of the prepuce, or *glans*, by its constriction and callosity, hinders the prepuce from slipping

(q) See above, *Par.* 14.

flipping back with ease, besides the fomentation above mentioned, I prescribe the following liniment.

*A digestive
liniment.*

Take of the ointment basilicon, six drams ; the ointment of tobacco, two drams ; red precipitate, (washed in rose-water, and levigated) half a dram ; mix them together for a liniment ; to be applied, upon lint, to the ulcers, after using the fomentation above directed (r).

*A swelling
of the scro-
tum, how
remedied.*

23. But if, either from stopping the *gonorrhœa* too soon, violent exercise, or any other cause, the *scrotum* be greatly swelled, which is now the seat of the disease, I apply the abovementioned fomentation twice a day to the part affected, and in case the pain and swelling do not abate, I cover the part with the common cataplasm, prepared of *oxycrate* and *bean-meal*. While these external applications are used, I likewise endeavour to promote the cure by cathartics and coolers, along with the diet abovementioned ; and I scruple not to take away nine or ten ounces of blood from the arm of the same side with the testicle affected, at any time of the disease, if the largeness of the swelling and the violence of the pain require it (s) : and here we finish our observations concerning the cure of the *gonorrhœa*.

24. But

(r) If the inflammation here be considerable, bleeding should be used, and repeated as there is occasion, and the body kept open with emollient diluting glysters, observing also a light diluting diet, if it be attended with a fever, which is often the case. *Barley-water*, mixt with *honey of roses* made warm, should be frequently thrown up between the *glans* and the skin with a proper syringe, in order to wash away the sharp and noxious humours, which lie conceal'd under the prepuce; and an emollient cataplasm, like that described by our author, is to be applied to the tumefied part. But if the disorder does not yield to this treatment, recourse is to be had to the operation practis'd in these cases, which consists in dividing the prepuce, and is accurately describ'd by *Heister* in his *Institutions of surgery*, and *Astruc* in his treatise of the *venereal disease*, to which the reader is refer'd for further information in this particular. This latter recommends it as very necessary that the *penis* in this case be kept tied up to the belly.

(s) Dr *Turner* entitles this an *hernia hamoralis*. It is ordinarily occasioned by the sudden stoppage of a *gonorrhœa*, or a latent pox. Bleeding is to be used in order to the cure, and repeated in proportion to the demand; the diet should be sparing and thin, and the body be kept soluble by cooling laxative glysters ; and all stimulating, restraining and balsamic medicines entirely forborn. The external applications prescribed by our author will certainly do

24. But if the distemper be got to such a height, as to be justly entitled the *venereal disease*, or a *confirm'd pox*, the procedure must be different from that above delivered; for the cure being more difficult, demands more powerful remedies; and in reality not an instance can be produced, so far as I know, where this disease hath been cured unless by a salivation by *mercury*; notwithstanding what has been hastily advanced by some learned, as well as illiterate persons, to the contrary (*t*). Since therefore a salivation answers every purpose here, I need only deliver what reason, and experience confirming reason, intimates concerning the raising and carrying it on.

The venereal disease to be cured only by salivation.

25. And first I cannot conjecture the reason of the frequent cautions which are inculcated by some physicians, as to preparing the body duly by cathartics, digestive medicines, bathing, and the like; not to mention bleeding, which some esteem the principal thing. For if we speak frankly, the whole of the question is reducible to this, *viz.* that since a salivation must be procured by a poison (for we have not hitherto discovered a safe and innocent medicine productive of this effect, and the disease cannot be cured without it) whether 'tis better to make use of it, when the body is in full strength and spirits, and consequently more able to bear it, or when it has been debilitated by bleeding and a low diet? Doubtless, every judicious and considerate person would think it better to do nothing at all, than to do mischief by such unseasonable attempts. Besides 'tis manifest from experience that a salivation is better supported by those who have not been debilitated by evacuations, or any other way, than by such as have been weakened before entering upon the course (*u*).

No necessity of preparing the body for it.

26. Omitting

do service, along with the method just laid down, remembering to support the part with a convenient truss.

Hoffman assures us that he hath sometimes known such tumors happily discuss'd, by only anointing the *scrotum* with a mercurial ointment; which could not be resolv'd by the most powerful remedies, nor even by mercury given internally. See *Hoff. op. tom. III. p. 425.*

(*t*) See above (*l*) where the contrary seems to be fully proved.

(*u*) Preparatory to raising a salivation by *mercurial unktion*, (and the same holds good of the internal method) *Astruc* rightly advises that due attention be had (1) to the present state of the patient, whether he be fit to bear *mercury*; (2) the choice of a proper season

How to be
conducted.

26. Omitting therefore this mischievous preparation; as soon as I am called, I prescribe the following ointment. Take

season of the year for such a remedy; (3) the preparing the body in such manner, that the disorders of the patient's blood, if there are any, may be corrected, and the dangers that are to be fear'd from the use of *mercury* may be avoided; and lastly (4) to the preparation of the ointment to be employ'd.

With respect to the first, the unction is to be refrain'd in persons afflicted with acute, or very dangerous chronic diseases, unless it be highly probable that the latter originally proceed from the pox. Neither is it to be us'd in those who are very weak, and exhausted, from whatever cause this arises, especially if a plentiful spitting be intended; nor in women during the time of their menstrual discharge. As to the seasons of the year, spring or autumn is most suitable, and winter better than summer; but if the symptoms are very urgent, the course is to be begun immediately, with proper caution. Previous to the unction the patient, if plethoric, is first to be blooded, then to be purg'd gently with cooling laxatives, and to use the warm bath twice a day for five, six, or eight days, as it shall seem convenient; and during the whole preparative course his diet should be sparing, moist and cooling, and wine, venery, and all violent exercises of body or mind refrain'd. And if the pox be complicated with any other violent disorder, a more laborious method of preparation is necessary, adapted to the state of the patient. But there are some cases which will not even stay for the common preparatory method; to wit, if a carious bone in any of the limbs shall be fractur'd on a sudden, from a slight blow; if a deep *caries* in any of the bones shall penetrate to the *medulla*; if a hot, painful, inflammatory *exostosis* shall seem to tend to imposthumation. In these cases bleeding and purging, at most, being only premis'd, the *mercurial unction* must be instantly us'd, and in large quantities for the first or second time, if the symptoms shall seem to require a plentiful dose of *mercury*, to abate their fury. The violence of the disease being abated, we may then slacken our pace, and proceed more slowly, not only that the *mercury* by remaining in the blood may have the more force upon it, but also lest by too great haste some violent disorder should unhappily be brought on.

But if you except these few cases, *adds the author*, which indeed very rarely happen, I would advise you never to omit a diligent preparation of the patient, previous to the use of the *mercurial unction*, which I don't only apprehend to be useful, but absolutely necessary, not only to correct the disorders that are foreign to the pox, if any such lurk in the blood or the first passages, but also that the *mercury* may gain a more safe and easy admittance, to perform its good effects. Therefore, I think that *Sydenham*, who in other respects is a man of great authority, should by no means be listen'd to, when in his *Epistola responsoria de morbis veneris*, he asserts that these preparatory methods should always be omitted, as injurious to the patient, and that bleeding and a slender diet do nothing but mischief, by destroying the strength, and lowering the spirits. As if it was likely the patient's strength should be so much lower'd by bleeding, and giving a purge

or

Take of hogs lard, two ounces ; quicksilver, an ounce ;
mix them together. *Amertcurial ointment.*

I add no hot oil, or any thing else to it ; because every addition hurts the ointment if it hinder its operation, if not, at least it is no improvement to it ; and perhaps those ingredients which are added under the title of *correctors*, do the same here (if indeed they act at all) as experience shews such things ordinarily do when added to cathartics, *viz.* occasion gripings and render their operation more difficult, from the struggle arising between the antidote and the purgative, the virtue whereof wholly consists in being opposite to nature, I
X therefore

or two in fifteen days, that he should be unable to undergo the exhibition of *mercury* ; since on the contrary it is evident, that by this method of preparing, (1) that the vitiated chyle of the first passages is carried off, (2) that the plethora of the vessels is lessen'd, (3) that the solid parts being relax'd, the way is made more easy for the *mercury* to perform its effects in the blood, for the attrition of the blood and humours. Lastly, for the excretion of the humours by the strainers of the mouth, intestines, skin and kidneys.

He proceeds to deliver the rules to be observed in making the ointment, which well deserve to be consulted.

See *Astruc of the venereal disease*, Vol. 2. book 4. Chap. 6. *sparsum.*

Hoffman commends *warm-bathing* in the following terms. Warm-bathing is likewise admirable for cleansing the mass of blood from the *venereal taint* ; for there is not a more expeditious and appropriated way of discharging a matter that, by its subtilty and acrimony, lodges in, and preys upon the solid parts, and thus causes violent symptoms in the nervous system, than by the glands of the skin ; which are the best and universal outlets of the body ; whence the *venereal disease* is seldom totally eradicated, without the use of warm-bathing. All experienced physicians know of how little service, and yet how mischievous that method of curing the venereal disease is, which turns upon the use of *drying decoctions*, and *mercurial preparations* ; whether intended to sweat or salivate ; unless care be taken to discharge the malignant humours out of the body, particularly by the pores of the skin : we could produce numerous instances of cases, where, after *mercurial salivations*, and the use of *mercurial preparations*, in the way of diaphoretics and purgatives, assisted by sudorific decoctions, the symptoms have been abated for a season ; but after a while unexpectedly returned, with greater violence, because the taint was not thoroughly discharged ; but part remaining behind, gradually prevailed, and acquired fresh force. But by nearly the same course of mercurials and drying decoctions, together with a proper use of *warm-bathing*, at due intervals, the cure has been compleated ; and the virulent matter entirely discharged from the very innermost seat of the nervous parts. See *new experiments, &c. upon mineral waters*, translated by Dr Shaw p. 184, 185.

therefore order the patient to anoint his arms, thighs, and Legs, with his own hand, with a third part of the abovementioned ointment for three nights running, with care not to touch his arm-pits and groin, and the *abdomen* must be well defended from the ointment, by wrapping a piece of flannel round it, and fastening it behind. After the third unctiōn the gums generally swell and the salivation rises; but if it does not appear in three days after, eight grains of *turbith mineral* may be given in a little *conserve of roses*, and after every evacuation, either upwards, or downwards, let him take a draught of warm posset-drink. When the salivation begins, the phylician must attend with great exactness to the degree thereof, lest by inconsiderately using too many medicines, it be raised so high as to endanger the life of the patient. When it is got to a proper height, in which state the spitting generally amounts to two quarts in the space of twenty four hours; or if the symptoms go off, tho' the spitting be not so much, which generally happens in four days after it comes to the height; it will be necessary to change his linnen and ſneets, for others that have been worn some time since they were washed; because those he lies in being fouled with the ointment, are apt to increase and keep up the salivation beyond the due time. But if the salivation abate before the symptoms vanish, it must be quickened by exhibiting a scruple of *mercurius dulcis*, at a time, occasionally.

A loose-
ness hap-
pening, how
check'd.

27. Sometimes it happens, especially in such as are easily mov'd by purgatives, after the first or second unctiōn, (*viz.* as soon as the mercury begins to affect the blood) that nature endeavours to throw it off by the intestines, whence not only mucous stools and gripings proceed, but the cure of the disease is hindered thereby, which is us'd to yield only to salivation. In this case, mercury must be entirely refrained both externally and internally, till these symptoms are quite gone off; and the purging likewise, which generally happens before the salivation rises well, must be stopped by *liquid laudanum*, increasing the dose and repeating it according to the urgency of the symptom; or a dram and half of *diascordium* must be given between whites, occasionally. Upon the stoppage of the looseness, the salivation,

tion, which scarce appear'd before, usually goes on in a proper manner.

28. When the patient appears to be recovering in all other respects, only his mouth continuing ulcerated, (which is the genuine effect of a salivation) the spitting which abates now every day, must not be check'd by purging, or any other method: for possibly after the pain is gone off and the ulcers are dried up, a part of the morbid matter may remain in the habit, and occasion fresh disturbance, unless that moderate spitting be permitted, which will cease as soon as the patient after his recovery, hath expos'd himself for a time to the open air. For this reason I esteem it dangerous to put a stop to the remaining salivation, which is upon the point of ceasing spontaneously, either by *purging*, or drying it up with a *decoction of the woods*; which methods, tho' commonly used under pretence of expelling the mercury out of the body, or correcting its malignity, do, without doubt, occasion the frequent relapses that happen in those unfortunate persons, who, having been at a large expence, and gone thro' a tedious course, earnestly long for health, and had certainly obtain'd it, if the salivation had been suffered to terminate spontaneously. It would therefore be more adviseable to promote it, by exhibiting *mercurius dulcis* once a week, after the patient is entirely recovered and goes abroad (which I have sometimes done for some months) than to check it too soon (x).

29. But tho' I disapprove of purging at the declension of the salivation, for the abovementioned reasons, it may, nevertheless, be indispensably necessary at the height thereof; *Purging sometimes necessary at the height of the salivation.*

X 2

(x) *Boërhaave* calls this an excellent rule of our author, and agrees with him in condemning *sudorific decoctions*; observing that a relapse need not be apprehended, if four, eight, ten or twelve grains of *mercurius dulcis* be exhibited once a week, according as the patient is found to be more or less difficultly moved. See his *prax. med. vol. v. p. 368.*

But where the salivation has been sufficiently copious and continued a due time, lenitive purges should seem proper to carry off the remains of the mercury, at the close thereof; and daily experience shews that they are exhibited with all desirable safety and advantage,

As the appetite is generally very sharp after a salivation, great care should be had, that the patient commits no excess in point of eating, and his food should be light and easy of digestion. Neither should he venture into the open air too hastily, especially if it be the winter season.

thereof; that is when it hath been so far raised, by wrong managment, as to endanger life, in which case 'tis not only safe but requisite to lower it by a purge, to such a degree as is consistent with the strength of the patient, after which it is to be left to itself.

But not after it is over.

30. If it be demanded, whether we should be satisfied with salivation only, without having recourse to cathartics, or any other medicines which are usually administer'd after it is over. I reply that besides what has been just mentioned, which reason and experience confirm, I would willingly learn how it comes to be more necessary to purge after a salivation, than to salivate after purging; since purgatives, especially *scammony* and such acrid cathartics, leave some remains of malignity behind them in the body, which notwithstanding we leave to nature, whereby at length they are overcome, namely, upon the patient's returning to his usual manner of living, exercise, and the free use of the air? again, I would gladly know the reasons why we endeavour to expel the remains of the mercury by cathartics, whilst we not only neglect, but check the salivation, which is the genuine and almost the sole method whereby nature ordinarily does and can effect it? But such errors are to be ascribed to our limited capacity, which hinders our coming at the truth, that lies too far out of our reach, so that we take up with specious appearances instead of realities; and afterwards strengthen our groundless prejudices, to that degree by conversation, that at length we are for imposing our idle notions for demonstrations: which, in my opinion is manifest in the instance under consideration.

Salivation and purging not easily borne by some subjects.

31. But tho' most persons may be cured by the abovementioned method, it must however be carefully noted, that some are possess'd of such an *idyosincrasia*, or peculiarity of constitution, both in respect of salivation and purging, (such as are not easily mov'd by cathartics, being likewise hard to salivate) that it will scarce cause an ulceration of the gums, much less raise a degree of sputation adequate to the disease. In these cases, therefore, the physician must carefully beware of endeavouring too obstinately to raise a salivation, as being directly opposite to nature; the process having prov'd fatal to abundance of persons, thro' a neglect of this caution. For in case of such a disposition, the ob-

stinate

inate exhibition either of external or internal medicines for this purpose, instead of answering the end, occasion gripings and bloody stools; nature endeavouring to carry off the poison of the mercury by this way; or otherwise a pain of the stomach, faintings, cold sweats, and other terrifying symptoms ensue, so that the patient is put in imminent danger of death, and perhaps destroy'd thereby (y).

32. In such cases, therefore, tho' it may not be amiss to repeat the unction, and the *turbith mineral* again, when the salivation does not rise in four or five days af-

How such
are to be
treated.

X 3

ter

(y) Tho' it be a case that does not frequently happen, yet it is certain from undoubted experience, that mercury shall sometimes in a great measure lose its effect, tho' administred in due form, method and dose, and frustrating the expectations both of doctor and patient, shall not produce any ulcers in the mouth, or a few only, and such as are cutaneous and slight; nor raise any salivation, or at least a very small one, and more like a spitting than a salivation. 'Tis strange, indeed, that a medicine, which usually raises such violent storms, should sometimes lie so still and quiet in the body; but if I am not much mistaken, it may be accounted for from one or other of the following causes;

(1) If the skin be thick, compact, and abound with too turgid vessels, so as not to be easily pervious to the entering mercury, and by that means admits it but in a very small quantity.

(2) If the blood be naturally dry, and tho' attenuated by the mercury, supply but a small portion of lymph, and such as shall scarce suffice to keep up the salivation.

(3) If any other evacuation, for instance, by sweat, urine, stool, &c. be more copious than usual, and the lymph be diverted another way, where it meets with a freer and easier passage; in this case the salivation must be lessen'd, if not wholly suppress'd.

(4) If the salival glands be either naturally or diseasedly dense, compact, hard, or schirrhous, and so give a difficult and slow passage to the salival lymph that is to flow thro' them.

(5) If thro' any natural or vitious constitution of the blood, the *saliva* flowing into the mouth be render'd so thick, viscous and tough, as to be void of acrimony, and incapable of eroding the muciferous vessels of the mouth.

(6) If the mouths of these vessels be not wide enough to imbibe the poison lurking in the *saliva*, or if they imbibe it in so small a quantity, that it shall have little or no effect upon the receptacles of the *mucus*.

(7) If there be little or no sympathy between the inward parts of the mouth and the salival glands. For this, neither the irritation or exulceration of the mouth are, in any wise, likely to raise a salivation. And if any one should be surprized at us for admitting this variation in sympathies, I would have him consider that sympathies are subject to no rules, but are different in different persons, and that this is frequently the cause why some persons vomit with more or less difficulty from the use of an emetic, shed tears from smoke, sneeze from snuff, &c. See Astruc of the ven. disease, vol. 1. p. 225, 226.

ter the last unction; (interposing some days between each unction) yet great care must be had not to be so resolutely bent to raise a salivation, as to continue to force it in opposition to nature. In my opinion therefore this method is to be followed: as soon as a sickness at stomach, or gripings succeed, medicines must be refrained, till these symptoms are gone off; for by the frequent repetition of powerful medicines to raise a flux, when nature opposes it, a dysentery will certainly follow the gripings, and the sickness at stomach terminate in death. Whereas on the contrary, if a milder and slower method be used, exhibiting, for instance, a scruple of *mercurius dulcis* once or twice a week alone or with a dram of *diascordium*, in case of a tendency to a looseness, a cure will be obtained. For tho' the salivation does not rise to the height, yet an extraordinary sputation will be occasioned, accompanied with a fetid smell, which is the concomitant of a genuine salivation: whence it is manifest that the blood and juices have undergone that peculiar putrefaction, or alteration, whatever it be, which either causes, or proceeds from a salivation. By this method all the symptoms of the disease will be conquered, provided it be continued a proper time.

*Salivation
not curative
of the pox,
when it is
join'd with
a gonorrhœa.*

33. It must however be observed that tho' a salivation excels every other remedy in curing a *confirmed pox*, yet it is not able to conquer a *gonorrhœa*, when join'd therewith, for this disorder continues after the former is perfectly cured, so that from hence 'tis reasonable to conclude, that *mercury* is possessed of no specific virtue *immediately* curative of the *pox*, tho' perhaps it may be entitled a specific *mediately*, inasmuch as it cures the disease by the help of a salivation, which however is almost as absurd as to term a lancet, a specific for the Pleurisy.

*The method
to be used in
this case.*

34. But to resume our subject; when the *pox* and a *gonorrhœa* meet in the same person, the cure of the latter is to be attempted either before, or after the salivation, tho', in my opinion, it is effected with more safety and ease after the flux is over; for being joined with the pox it yields with greater difficulty, but having been in some measure conquered by the preceeding salivation, it is ordinarily cured with less trouble: purging, however, must absolutely be refrain'd as long

as the salivation continues in the smallest degree. Upon this account, therefore, the cure is more safely conducted by giving a dose of *turbith mineral*, once or twice a week, than by any other purgatives; as it will in some measure promote the flux, whilst the matter productive of the *gonorrhœa* will, in the mean time, be gradually carried off (x).

35. It must likewise be noted, that if there be a tumor, usually termed an *exostosis*, upon some bone, which has been of so long standing as to render it carious; it will be in vain to attempt the cure of the disease by a salivation or any other method, unless care be also had to remedy this accident. And therefore the bone must be laid bare by applying a *caustic* to it, and its *exfoliation* promoted, by medicines adapted to this end (a).

An exostosis how to be remedied.

36. If the *ulceration of the mouth*, which generally accompanies a salivation, be so exceeding painful, or the mouth so excoriated as to bleed continually, it must be often gargariz'd with *rose-water*, *milk and water*, or

The ulceration of the mouth, how mitigated.

X 4

(x) Experience shews that a *gonorrhœa* frequently continues after the *venereal disease* has been carried off by a salivation.

Boerhaave tells us that he has seen ulcers all over the body and the *penis* cur'd by salivation, whilst the *gonorrhœa* remain'd. See *his pract. med. vol. v. p. 360.*

Astruc takes notice of it, as a thing that often happens, and delivers the cure thereof with his usual accuracy and judgment, which being so full and circumstantial we cannot do better than refer the reader thereto. See *his treatise of the ven. disease, vol. 2. book 4. chap. 10. sect. 1. p. 159.*

(a) *Astruc* is of opinion, that those *exostoses*, which remain after the course of *mercurial unction*, are not to be meddled with, provided they give no pain.

But if an *exostosis*, says he, which has resisted the force of the unction, shall either from its own nature, or from being tormented with the application of remedies, have an acute pain and shooting, with a manifest heat and redness of the skin, there is so great danger of an abscess being joined with the *caries* of the bone, or what is worse, that it shall degenerate into a cancer, that there is no room for delay: therefore it is necessary to hasten to the operation, in which a crucial incision is to be made upon the skin, the four dependent corners should be taken off with the scissars, and the periosteum being scraped away, the *exostosis* is to be perforated with a trepan, in several places, and then to be entirely struck off with a saw or chissel, and the basis that it grew upon is to be brought to exfoliation with powder of myrrh, aloes, or eupherbium, with tinctures from extracts of the same medicines, or with the actual cautery, if the *caries* shall have penetrated so deep as to require it; lastly, the wound that is left, is to be cured in the same manner as ulcers which are joined with a *caries* of the subjacent bone. See *Astruc of the ven. disease vol. 2. p. 189, 190.*

a decoction of *barley*, *marsh-mallow roots* and *quince seeds*. This is the only troublesome symptom that I have met with in a salivation, when it was conducted in a proper manner; and in reality if the pain and ulceration of the mouth could be any way prevented, the cure of this disease would be effected with as little trouble, as is that of some others, which are much less attended to (*b*).

The regimen in a salivation.

37. As to the diet and other regimen, I conceive they ought to be the same in a salivation, at least till it declines, with those which are directed in a course of purging. For as when a person hath taken a purge, he need only keep himself warm in his room, and eat sparingly of easily digestible food; so I can see no reason why a person in a salivation should be kept constantly in bed, and forbid a slender diet, which may strengthen nature, struggling with the poison. For numbers have been destroyed, their strength and spirits being totally exhausted, by sweating, purging and needless abstinence, besides the mischief caused by the mercury, and frequently also after the disease is gone off, the patient, not having sufficient spirits left to recover, sinks thro' debility, or if he escapes 'tis with so much difficulty and pain, that life is not worth the purchase.

Why some are obliged to go to France to perfect the cure.

38. And here 'tis easy to obviate the objection, why some that undergo so much, in that state of the disease which we have just mentioned, are obliged to go to *France*, in order to obtain the cure? the reason of this I take to be, that in such persons the constitution is broken and their strength exhausted, so that our thick and moist air hinders their recovery; whereas the air of the *French* climate which is more healthy and clear, is suited to restore their strength and spirits; and not that the physicians of that nation, however learned they may be, are acquainted with a better method of curing this disease, than those of our own country. But to return to the regimen.

39. I am therefore of opinion and experience confirms it, that besides water-gruel, panada, posset-drink, warm

(*b*) If the ulceration spreads and eats deep, detergent gargarisms should be us'd; and the ulcers are to be frequently touch'd with a mixture of *honey* and *spirit of salt or vitriol*, or the like; at the same time observing to lower the salivation, if it be risen too high.

warm small beer, &c. veal and chicken broth and the like, may and ought to be indulg'd in a moderate quantity; and that as soon as the swelling of the gums is so much abated that the teeth can be closed, rabbits, pullets, lamb and such light meats may be permitted sparingly, and the patient likewise may sit by the fire, or lie in bed, as he likes best: for as the cure of this disease is to be effected by a salivation, and not by sweating; I see no reason for overheating the patient unnecessarily.

40. This method is not only more expeditious, as not requiring so many days to be fruitlessly spent in preparing the body before salivation, nor such frequent purgation, nor the common decoctions, after the salivation is over; but I am well assured it is also easier and safer and more preventive of a relapse; which any person, who has follow'd the other method, will experience upon making trial of this. At least it has succeeded with me in several patients, some whereof had already undergone more than one salivation, ineffectually, having always relapsed from the causes above enumerated.

Advantages of this method.

41. But I need not use many words to gain your esteem, who have long been convinced of my probity, and vouchsafed to advance my reputation. I forbear therefore to add any thing further relating to this disease, for it never was or will be a pleasure to me, to perplex matters by a prolix and intricate stile. Be pleased then to accept this short performance, how inconsiderable soever it be, either in point of value or bulk; because I wrote it principally for the public good, and to testify my regard for you. And tho' I have a singular esteem for you, yet is it less than you merit both from me and all those to whom your great learning, affability, candour and other virtues are known. And indeed I do not flatter you, when I assure you, that I have always set the highest value on your friendship; for amongst the observations I have made during the short period of my life, this is well worth notice, and I would likewise particularly recommend it to my son, namely, that an acquaintance with men of eminent probity and virtue hath always been of service to me; whereas, contrariwise, an intercourse with vicious men, (if such a friendship, as is not founded on virtue, does not rather deserve to be stiled a combination or

The author apologizes for himself.

con-

conspiray) tho' they never injured me by their words or aspect, hath at length, I know not how, sometimes proved prejudicial to my person, or interest. I conclude with entreating you to continue your friendship to

S I R

Your most obedient servant,

THO. SYDENHAM.

An EPISTLE of Dr WILLIAM
COLE to Dr SYDENHAM.

Worthy Sir,

YOU will perhaps wonder what impertinent person it is that breaks in upon your serious studies; but I hope for your pardon, when I assure you that 'tis chiefly to express my acknowledgment, for the singular advantages which I have received from your elaborate essays on *acute diseases*. For you have specified all the constitutions of years and of the air, which you undertook to treat of, with great accuracy, and in a new method, and have intimated such genuine and readily obvious indications, for the cure of the diseases happening therein and illustrated the work with such excellent remarks, that we may reasonably presume, that so much sagacity and indefatigable application will eternally oblige both the physicians and those who shall be committed to their care.

But tho' you have wrote so accurately of those things you design'd to treat, that I can scarce forbear praising you for every particular, yet I chiefly thank you for your method of treating the *small-pox*, by which that, hitherto, fatal disease may be readily cured, provided it be not attended with malignity, or some unusual symptom, or obstructed by nurses; a set of people, who frequently injure the health of mankind in a great degree, occasioning irregular symptoms by their hot regimen and medicines, and destroying abundance of persons before their

their time. You ought therefore to be esteemed the guardian of mankind, and a sure guide to the sick in the extremest danger, leading them to health, in case they follow your directions.

For my part, tho' I somewhat distrusted my judgment, yet I have long been of opinion that the eruption of the pustules in the small-pox is not the *essential* disease, but the *crisis* of the fever; and, accordingly, that like other crises, it required a regimen, in which, by the unanimous consent of physicians, the whole business is to be left to nature, provided all things go on in a proper manner; which generally happens in this disease, unless the blood be immoderately agitated in the beginning. But, after having perused your excellent treatise, I found that those fears which had so long possessed me and others were groundless; and I ventur'd to treat my patients according to your method, (tho' sometimes not only the common people, but physicians condemned it) which prov'd so successful in those that complied with it, that, whatever others think, I shall always esteem myself happy in the possession of so valuable a treasure.

And moreover, when I was called to persons afflicted with the *confluent small-pox*, which, however, seldom happened, I scrupled not, upon your authority, to have recourse to opiates though they seem'd to be expiring, and have had great success. And, in reality, you seem'd to have given us so compleat a treatise on this disease, that I should easily have imagined that the subject was exhausted, had I not lately been informed by my intimate friend Mr *Kendrick*, who highly extols your civility, that you had some new observations relating thereto, which I cannot but think must needs be eminently useful in practice, because they are the fruits of *your* labour; so that unless you communicate them to the publick you will injure mankind and obstruct your own character likewise. And therefore, if the entreaty of a person unknown to you be of any weight, I beg you would publish them. But I must not stop here: for, having learnt from the same gentleman, that you have some curious observations concerning *hysteric diseases*; which, have exercised and fatigued the minds of the ablest physicians of all ages, and often yield not to the methods of cure delivered; demon-

strating

strating by this how unsafe it is to trust to our reason in philosophical matters, except in such things, as are manifest from the testimony of the senses. You will therefore, doubtless, greatly oblige both the present age and posterity by publishing your sentiments of these diseases. At least I beg you will not be offended at the request which I, tho' unknown to you, have ventur'd to make both for my own and public good, and that you will reckon amongst the number of those who are most devoted to you,

Your obedient servant

Worcester,
Nov. 17, 1681.

WILLIAM COLE.

EPISTLE from Dr THOMAS SYDENHAM to Dr WILLIAM COLE; treating of the Small-pox and hysteric Diseases.

Worthy Sir,

*The author's
modesty.*

1. **W**ERE I so excessively vain as to appropriate to myself the praises which I have no right to, it would be difficult for me not to shew some pride, being so highly commended by an eminent man, who, tho' an utter stranger to me, is known to the learned world by his excellent writings. But your having honoured me thus far, tho' undeserving it, proceeds from your civility; for men of merit are so formed by nature that they are not only favourable to such as err in trivial matters, but are always ready to commend those who come far short of perfection. And 'tis with gratitude I acknowledge that you have given me a remarkable instance of this generous disposition, by praising my slender endeavours, which were intended to benefit mankind.

*His reasons
for treating
of the hy-
stERIC passi-
on.*

2. You have here what you requested, namely, my late observations on the *small-pox*, and my new treatise of the *hysteric passion*. I begin with the former that what should seem to have been wanting in it hitherto, may be supplied by such remarks, as are the result of a longer experience. But I have undertaken to treat of *hysteric diseases*

diseases, because, except fevers, they happen most frequently, and likewise because I conceive my observations may be of some advantage to practice. But I own I had still another reason for prosecuting these studies besides the hope of serving the public, which was to employ my leisure hours well and spend the long winter evenings in an useful manner, being prevented by age now from going abroad to pick up companions. But whatever it was that first induced me, I do not find myself so fit for the undertaking, as I hoped to be, for that continued series of thought which requires a fixt attention, has for many years past been prejudicial to my gouty constitution, and must needs be more so, now old age approaches. Yet as I have received your obliging letter, I will in answer to it, treat of these matters, tho' with more brevity, than I at first designed.

3. Previous to my treating of the *small-pox* I must inform you, that the same species of *intermitting fevers*, which as we have said in another place (a), arose first in 1677, still prevails, *viz.* in 1681, the time of my writing this epistle. These fevers throughout those years in which they reigned, like all epidemics, chiefly raged in those seasons that conspired most with their nature; but upon the approach of another season yielded to such epidemics, as that season principally favoured. For instance, upon the coming in of winter, they always gave way to the *cough* and *peripneumonic fevers* thereon depending, and likewise to the *small-pox*: but upon the return of the spring they re-appeared. So in the year 1680, when these intermittents had prevailed universally during the autumn, the *small-pox* succeeded them in the winter and spread much. But in 1681, the intermittents returned, tho' they did not spread so epidemically, their violence being abated, so that the *small-pox* appeared along with them in a few places. But at the beginning of summer the *small-pox* increased every day and at length became epidemic, destroying abundance of persons.

First enumerates the then reigning disorders.

4. What reason seem'd to intimate formerly, appeared manifest to me this year, 1681, namely, that it was improper to confine the patient constantly in bed, before the total eruption of the pustules; for the spring and summer having been the driest seasons that any per-

The patients why not to be kept in bed, before the total eruption of the pustules.

(a) See the epistle to Dr Brady, page 269.

son living could remember to have happened, so that the grass was burnt up in most places, the blood was by this means deprived of the greater part of the humidity, which the air otherwise usually communicated thereto; whence the then reigning *small-pox* was accompanied with a more considerable inflammation than ordinary, and the other symptoms thence arising were more violent (*b*). And this I conceive was the cause that *purple spots* frequently preceded the total eruption of the pustules, and that the violent inflammation which expelled them, by dissolving the texture of the blood, suddenly destroy'd the patient before the due expulsion of the morbid matter. And the disease proved so much the more destructive, because the eruptions so readily ran together, for the reason above intimated; the intemperature of the air, now, doing the same mischief spontaneously, which ignorant practitioners ordinarily occasion, by using a hot regimen and cardiacs, at the beginning of the distemper. For 'tis a remark well worth noting, and the result of the most careful observation, that the *small-pox* is least dangerous, when the eruptions are few, and most so, when they are numerous; and accordingly as they do, or do not abound, the patient lives, or dies. It must, however, be acknowledged, that the *bloody urine* and *purple spots*, which so certainly prognosticate death, do sometimes happen, when there is little sign of the appearance of the *small-pox*, or only a very few eruptions coming out; but these, as they generally accompanied the confluent small-pox, so they sometimes came so early, as to destroy the patient before the total eruption of the pustules; as we observed above (*c*).

Why more
or less en-
dangered
from the
paucity or
number of
the erupti-
ons.

5. I conceive it easy to account for the patient's being more or less endangered, in proportion to the paucity or number of the eruptions; for as every pustule is at first a *phlegmon*, tho' of a very small size, and soon im-

(*b*) As the spring and summer were remarkably dry seasons, 'tis probable, they were likewise very hot; and then the unusual violence of the small pox and its symptoms may be easily accounted for. For long continued heat and driness are found to dry and crisp the fibres of the body, quicken the circulation, exhale the balsamic, thin and aqueous parts of the fluids, and leave the remainder thick and acrimonious, whence it circulates with difficulty, and is much more disposed to obstructions and inflammations.

(*c*) See page 104, 105. par. 24, 25, 26.

impostumates, so the secondary fever, which depends on the matter hereafter to be produced, must needs be more or less violent at the height of the disease, according to the quantity of matter to be suppurated, which is usually compleated in the mildest species of the confluent small-pox on the *eleventh* day, in the middle sort on the *fourteenth*, and the worst on the *seventeenth* day. For it must be observed, that as the confluent species, exceeds the distinct in point of danger, as much as it is itself exceeded by the plague, so likewise, the abovementioned three species of the confluent *small-pox*, are comparatively more dangerous the one than the other; which respects also the sex, or age of the patient, it being generally known, that persons in the prime of life are in greater danger in this disease, than women or children under fourteen.---But this by way of digression.

6. Nor will it seem strange that the danger should be so great from a large number of eruptions, if it be considered that a *phlegmon*, (commonly called a *boil*) in the arm or any other part, will occasion a fever whilst it suppurates; the blood being inflamed by the purulent particles which are received into the mass from the veins, according to the laws of circulation, and thus giving rise to the fever. But the physician has more reason to foretell death, on one of the abovementioned days, when the face, at the beginning of the disease, appears totally covered with small eruptions, resembling the filings of steel, on account of the extreme violence of the succeeding fever, which necessarily rages in proportion to the quantity of matter thrown out of those innumerable impostumes into the blood. And 'tis easy to foresee the destruction of the patient some days before it happens, tho' he thinks himself in a fair way, and is reputed to be so by the attendants, who are unacquainted with the history of this disease.

7. Hence therefore, if the patient be not otherwise endangered than from the abundance of eruptions (setting aside the *bloody-urine* and *purple spots* for the present) I consider well whence this proceeds, and if it can be done with safety, use all my endeavours to repress them, which in reality is the principal thing to be effected, and the way to relieve the patient; every thing being doubtful and dangerous when this species of the disease

is

Further explained.

The number of eruptions whence.

is confirmed: so that if the patient should escape, it is not so much owing to my care as to some considerable bleeding at the nose, or other accidental alteration happening in the course of the disease. Now such an extraordinary eruption of pustules, in my opinion, proceeds from the too sudden assimilation of the variolous matter; which seems chiefly to arise either from the over-hot and spirituous constitution of the patient, or from his having raised the fermentation too high, by a too early confinement in bed, the use of hot cardiacs or any spirituous liquor; by which means the blood is disposed to receive the impressions of the disease, more intimately, and nature, being greatly disturbed by the vast quantity of the variolous matter, endeavours to change almost all the solids and fluids into pustules.

*Most chiefly
occasioned
by confining
the patient
in bed be-
fore the 6th
day.*

8. The immoderate assimilation of the variolous matter however, cannot be more effectually promoted, than by the patient's confining himself in bed unseasonably, namely, before the *sixth* day from the beginning of the illness, or the *fourth* inclusive from the eruption; when all the pustules are come out, and no more are expected. And tho' the moderate warmth of the bed, even after this time, does in some measure contribute to the rise of the delirium, watching and other symptoms, yet these are of such a nature, that they readily yield to proper remedies; whilst the imminent danger of death that happened on the *eleventh* day, from the great abundance of the pustules, cannot be prevented, or removed by medicine.

*This there-
fore is to be
carefully a-
voided.*

9. The patient therefore is here to be diligently admonished, by no means to keep his bed in the day-time, till towards the evening of the *sixth* day, whereby the eruptions will be fewer, and he will be greatly refreshed (*d*). But after this time, if the pustules be very numerous, he will scarce be able to leave his bed at all, on account of the pain thence arising, and a greater disposition to fainting upon sitting up; so that having frequently remarked this, it came into my mind that nature, in the common course of the disease, first pointed out the time, when a total confinement in bed becomes necessary.

10. But

(*d*) An excellent practitioner tells us, that he never could find that the sick could bear being kept out of bed so long, unless the distemper was very mild, and the pustules few. See Dr Hillary on the small pox, 2d edit. p. 79.

10. But in order to confirm this practical rule, which is so highly serviceable in lessening the impending danger from the *small-pox*, and in treating of it, at the same time, to deliver our history thereof from the beginning, to the end, it will be proper to draw up a kind of plan of the whole disease, and make a strict search into the nature and progress thereof; so that we may at length be enabled to ascertain the matter clearly, from the unerring reason of those who make use of the justest observations, and not from opinion founded on the slippery basis of fancy.

The nature and progress of the disease to be investigated, in order to confirm this rule.

11. In the first place, therefore, its essence, so far as we can trace the essences of things, seems to consist in a peculiar inflammation of the blood; in the course of which, nature is employed for some days, in the beginning, in preparing and moulding the inflamed particles, for their readier expulsion to the external parts; at which time the blood being disturbed, a fever must needs be occasioned; for, the agitated particles, hurrying in a tumultuary manner thro' the vessels, necessarily cause a sickness at stomach, sharp pains in the head, and all the other symptoms preceding the expulsion, according as they are carried to this or that particular part. But when the eruption is over, the fleshy parts become the seat of the disease; and, as nature has no other method of expelling the peccant matter from the blood, but by raising a fever, so, likewise, it does not free the fleshy parts from any extraneous body, but by impostumation. Thus if by accident a thorn, or the like sharp-pointed body be lodged in the flesh, unless it be immediately extracted, the parts around soon impostumate. Hence it is, that when these particles are lodged in the flesh, they at first occasion very small *phlegmons*, wherein they lie concealed; which encreasing every hour and becoming more inflamed, at length come to suppuration; when a part of the matter must needs be licked up by the blood which returns by the veins, and if too large a quantity thereof be received into the mass, it is not only productive of a fever, which the debilitated patient is unable to bear, but also taints the whole mass. Nevertheless, this is not the principal evil; for, by the extreme heat of the fever during the last days of the illness, occasioned by the excessive violence of the matter, the salivation, which

It seems to be a peculiar inflammation of the blood.

ought always to accompany the *confluent small-pox*, is stopt too soon, whence immediate death ensues. But if only a small quantity of the purulent matter be received into the blood, the violence of the secondary fever is easily checked by the encreasing strength of nature, and the pustules drying away gradually, the patient soon recovers.

Failure or success depends upon the procedure in the beginning.

12. Now allowing this to be the genuine and just history of this disease, 'tis manifest, that the failure or success, on either hand, depends upon laying a good or bad foundation for the cure in the beginning: for if these hot and spirituous particles be quickened by hot medicines, and especially by a constant confinement in bed, the assimilating virtue, which they already possess in too great a degree, will necessarily be heightened and encreased. And, besides, the blood and other juices being hereby heated, yield more readily to the stronger impression of the particles, whence more eruptions appear than should, and life is, in consequence, unnecessarily endangered. Whereas the contrary, *viz.* the moderate cooling regimen and the free use of the air, not only abate the force of the hot tumultuary particles, but likewise thicken and strengthen the juices; whence they are better enabled to resist the morbidic spirits and support their violence; and hence no greater quantity of variolous matter is prepared, than is natural in this disease.

Disadvantages of too early confinement in bed.

13. But the only inconvenience arising from a too early confinement in bed, is not from the assimilation of too large a quantity of the morbidic matter, and the immoderate exaltation of the ferment of the disease; for the same cause frequently produces *bloody-urine* and *purple-spots*, especially in summer, and in persons in the vigour of life. I conceive that both these symptoms proceed from the heat and commotion raised in the blood, by hot and spirituous particles; by which it is agitated and considerably attenuated, so that it bursts the vessels, causing *bloody-urine* when it forces its way thro' the kidneys, and *purple-spots*, when it is strained thro' the extremities of the arteries, terminating in the muscles and skin, which resemble so many mortifications in those parts wherein the extravasated blood is coagulated (*e*). And tho' both these symptoms might easily

(*e*) These terrible symptoms should seem to proceed from the acrimony,

easily have been prevented in the beginning, (when they chiefly happen) by a cooling regimen and diet; yet when they actually appear, whoever attempts to cure them, by confining the patient in bed and exhibiting cardiacs, will find himself as much in the wrong, as an old woman would be, who, to make her pot boil more gently, should make a larger fire underneath.

14. But to acknowledge the truth upon this occasion, how little soever it may be liked by the dogmatical, and such as are unacquainted with this matter, and therefore incompetent judges, 'tis not only unsafe to keep the patient always in bed the first days of the illness, but sometimes necessary to expose him to the open air; viz. if it be the summer season, and he not past the prime of life, or that he has been accustomed to spirituous liquors, and especially if the disease be owing to hard drinking. Now in these cases I conceive, that the too hasty eruption of the pustules cannot be sufficiently check'd by refraining from bed, and taking no cardiacs; for the blood unassisted by these, is so overstocked with hot spirits, of a like kind with the disease, that a kind of violent explosion thereof must necessarily happen; and moreover such a plenitude of humours will resolve into pustules, that the patient, being quite oppressed by the copious matter returning into the blood, must inevitably perish at the close of the disease.

The patient sometimes to be exposed to the open air, at the beginning of the disease.

15. But the immoderate exaltation of the ferment, does frequently encrease the force of the variolous matter so much, that the patient sinks at the beginning of the disease; viz. when the morbid matter cannot disentangle itself and come out, by reason of the confused and irregular motion raised in the blood; but bloody-urine and purple-spots succeed instead thereof, and close the catastrophe (f). And these likewise often happen

How destroyed at this time.

Y 2

in acrimony, putrefaction and dissolution of the blood; and if any thing can give relief, it must be bleeding and the use of acids and restringents; which is agreeable to our author's opinion. But such, alas! is the present imperfect state of medicine, as to afford little hopes of a cure in these calamitous circumstances; which for the most part terminate in the destruction of the patient.

(f) When the blood is moved with too great velocity, no fermentation can be regularly made, but much of what should be thrown out will remain in the mass; which will doubtless render it more acrimonious, and, consequently, encrease the fever and occasion ill-condition'd symptoms.

Bleeding
less service-
able now
than the ad-
mission of
fresh air.

in the *measles* and *scarlet fever*, if the eruption be unseasonably promoted by forcing medicines.

16. Nor have I hitherto found that bleeding, tho' it be used early, does so effectually check the overhasty assimilation of the variolous matter, as cooling the blood by the air received in by breathing, especially if the patient be put to bed immediately after the operation, and injured by hot cardiacs; the blood being by this means more disposed to receive the impressions of the adventitious heat, than it was before bleeding. And I positively affirm, that one of the worst cases I ever met with in the *confluent small-pox*, in which the patient died on the *eleventh* day, happened in a young woman soon after her recovery from a *rheumatism*, by the usual method of copious and repeated bleeding (*g*). And from this instance I first learned, that bleeding did not contribute so much to keep the *small-pox* within its due limits, as I heretofore imagined; tho' I have frequently observed that repeated purging, whilst the blood remains uninfected, generally renders the subsequent *small-pox* of a mild and distinct kind (*h*).

17. I

(*g*) The death of this patient, which, the author seems to insinuate, happened from the previous repeated bleeding, should, perhaps, rather be ascribed to the inflammatory and very tenacious state of the blood, which the rheumatism always leaves behind it.

(*h*) Dr *Hillary* recommends an excellent preventive method for the small-pox, which consists in taking several doses of proper *antiphlogistic purging physic*, at suitable distances from each other; abstaining, on the days between purging, and during some time, from all heating high-seasoned meats, and hot spirituous liquors, using a thin cooling and diluting diet, drinking small cooling and gratefully acid liquors, and being very regular in the non-naturals. He observes that if the person be of a very sanguine habit, bleeding will be requisite, or if the stomach is foul, a vomit, before the course of purging is begun.

He adds, by this regimen the crude humours of the body will be carried off, the fluids cooled, and rendered less liable to inflammation, or putrescency, and, consequently, the succeeding disease and its symptoms will be more mild and favourable.

I have always observed that the longer the method above recommended was continued, before the person was infected, the more mild and favourable the disease was rendered, the symptoms more moderate and the pustules fewer. I never saw the *confluent small-pox* follow the use of it, even when the persons were infected from such as had that sort of *pox*, and in some families to whom this disease had been frequently fatal. It is the chief if not the sole advantage, which inoculation has above the common way of infection, that the body by this, or some such-like

17. I am well aware that several objections may be made to this opinion of ours, of permitting the patient to sit up in the day time ; which may have great weight with the common people, and such as are little skill'd in this disease, to whom the lower rank of physicians generally appeal as proper judges in the case, that they may support their ill-grounded reasonings by their authority : such reasonings being in reality better adapted to their capacities, than those that are the result of deliberate consideration in men of deeper penetration. Hence it follows, that as the bulk of mankind can only arrive at a superficial knowledge of things, and but few have ability to go to the bottom, so these pretenders to learning easily acquire a superiority over the more intelligent, who are often exposed to calumny, but without being discouraged thereby, because they have truth, and the men of sound judgment on their side.

Objections may be made to the patient's sitting up in the day-time.

18. 'Tis objected first, that sitting up in the first days of the disease hinders the eruption of the pustules, and of course, prolongs the sickness, and other symptoms proceeding therefrom ; which indeed I own, and much experience confirms it. But then it must be enquired which of the two is most dangerous ; (1) to give a little check to the variolous matter, and thus prolong the sickness occasioned by keeping back the eruption, or (2) to urge the ferment of the disease, and assimilate so large a quantity of variolous matter as to endanger the life of the patient, by the *secondary fever* on the *eleventh Day*. I conceive it will appear, upon duly considering the matter, that very few have died merely because the *small-pox* did not come out sooner or later, unless perhaps a few of those, whose blood being inflamed by excessive heat and motion, circulated with such velocity as not to allow sufficient time for the morbid matter to be expelled slowly ; which is an argument in favour of my opinion.

Some of them delivered and answered.

Y 3

19. For

like method, may be prepared for the attack ; and those who don't approve of inoculation, may, as far as I have hitherto found by experience, reap all the advantages of inoculation, without being concerned in giving the disease : and if the person thus prepared should escape the infection, such gentle cathartics and temperate way of living, tho' continued for sometime, when the *small-pox* reigns in the neighbourhood, will be far from injuring the constitution. See his *practical essay on the small-pox*, p. 59, et seq.

19. For we may be assured, tho' we do nothing at all, that the variolous matter, (how much soever it shifts at the beginning of the illness, and oppresses the various parts it attacks, occasioning violent symptoms, as enormous vomiting, pain in different parts, &c.) will, nevertheless, at length be conquered by nature and driven to the skin; especially as the costiveness of the patient, to this time, promises a certain, tho' a late eruption of the pustules afterwards. But, contrariwise, how many dangerous symptoms ensue as often as the eruption is unseasonably promoted? It would take up too much time to particularise them; so that we shall at present only mention the chief, which are, (1) the number of eruptions too much augmented, whereto the fever which comes at the close of the disease is proportional, whence accordingly the danger is more: (2) the *bloody-urine* and *purple-spots*, both proceeding from the extravasated blood, which being too much inflamed and attenuated, by immoderate heat, bursts thro' the vessels, where it meets with least resistance. (3) As we have already remarked, a total stoppage of the eruption, occasioned by endeavouring too solicitously to promote it, which greatly obstructs the cure.

20. If it be asked, why a proper separation of the variolous matter may not be as well promoted at the beginning of the disease, by refreshing the patient with the moderate warmth of the bed, as without it. I ask, by way of reply, whether experience does not testify, that a person in winter, whilst he lies a-bed moderately covered, without a fire in the room, is much warmer, than when he sits up therein well-clothed? and if the difference here be remarkable, I next enquire, which of these methods is best adapted to check the immoderate motion of the variolous ferment; which in my opinion, the physician ought chiefly to endeavour in the beginning, and according as he deviates more or less from this end, he will assist or injure his patient (i).

21. But

(i) It must be acknowledged that it is oftener necessary to depress the fever, at the beginning of this disease, by bleeding, vomits, gentle lenitives, and proper cooling medicines and opiates, than to raise it, and this is the most effectual and safest method of promoting, instead of checking the eruption: for if the blood hurries on too quick, it will not allow sufficient time for the morbid matter to be expelled slowly, as it ought to be. See above par.

21. But what has chiefly imposed upon the unattentive in this case, is their having observed a tendency in the patient to spontaneous sweats, which continually flowing whilst he remains in bed, greatly abated the feverish heats, otherwise than in those who did not sweat. Let us therefore first, consider why we so solicitously endeavour to check the fever, since 'tis the instrument which nature ordinarily and chiefly uses in preparing and expelling all kinds of noxious matter which lurk in the blood. For 'tis evident, that whilst we carefully promote sweat, in order to lessen the fever, we by this means drive out a crude and indigested humour, like unripe fruit, and afterwards cause a fever; the *serum* of the blood, herewith the blood itself, and those newly generated hot variolous particles are diluted, being hereby driven out whilst these particles being freed from the *serum*, wasted by the sweat, have their violence and activity encreased. In short the abatement of the fever and other symptoms by sweat, and the too hasty expulsion of the pustules hereby occasioned, have succeeded ill in abundance of persons, who have perished on the *eleventh* day from this cause.

The fever why to be check'd in the beginning.

22. But it is to be observed, that I enjoin the patient to refrain from bed, on supposition only that the

Needful to refrain from bed at the beginning only, in the confluent small-pox.

Y 4

approach-

par. 18 towards the end. But before attempting any evacuation, let the state of the patient be maturely considered, because a *stimulus* is sometimes proper, and indispensably required. See p. 108. *note (b).*

One of the best writers on this disease observes, that as the regular and complete eruption and suppuration may be retarded, either by the over-violent motion of the blood, or on the contrary, by its being too low languid and weak, and that an error on either side may prove fatal; a strict regard must be all along had to the pulse, fever, and strength, of the patient, as well as the number of the pustules and other symptoms, that they may be kept regular and moderate; and whenever they are not so, nature must be assisted, accordingly as these indicate and require; either by the use of *antiphlogistics* and *evacuations*, &c. as before directed, or by *gentle cardiac, and alexipharmic medicines*, &c. But the latter are scarce ever required in the first state, and not near so often in the second, as the *antiphlogistics* are; besides as Dr Sydenham observes, the over-officious petticoat doctors prevent this, by giving sack and saffron, and their other good things, as they call them, whereby they too often either kill the patient, or at least render the cure very difficult: yet I am well assured, that some have been as directly murdered by the too liberal use of cold water, when the lowness of the fever, and oppression of nature, required a warmer regimen. See Dr Hillary's *pract. essay on the small-pox*, p. 79, 80.

approaching *small-pox* is of the confluent kind : for with respect to the distinct species, provided it can be certainly foreseen, the patient need not be kept always in bed, or enjoined to sit up, as the paucity of the eruptions prevents all danger either way.

*The author's
opinion
founded on
observation.*

23. However I am not so attached to my own opinion, as to think, that what I have here delivered should be credited upon the authority of my slender judgment. And in reality, I have ever so lightly esteemed the sentiments of the generality of mankind, that I may always reasonably suspect my own, when they clash with those of others, and I should also be upon my guard in this case, if my reasonings were not unanimously supported by practical observations. For setting aside these, what appears reasonable to me or any other person, may, perhaps, be nothing more than the shadow of reason, that is barely opinion. And the more I converse with men, the more I am convinced how dangerous it is, for persons of the acutest understanding, to make a strict search into any art or science, unless matter of fact be constituted the judge and test of truth and falsity. For, to use *Cicero's* phrase, those who are so strongly prepossessed of their abilities deviate widely from truth, in mere speculative matters ; whereas those who apply their minds only to such things as may be certainly determined by practice, tho' they should happen to mistake, would soon be set right, by bringing their ideas to this touchstone. For instance in the present case, cannot I certify myself by observation, what method is most productive of a favourable or severe kind of *small-pox* ; and so form a judgment thereof, suitable to the clearness of the fact ? and if others would follow this way of reasoning, I should be satisfied with their conduct, but 'tis most unjust to accuse me of advancing falsities, without having once experienced, whether the method, so often mentioned above, of keeping the patient up in the day time, at the beginning of the illness be advantageous or detrimental. Sure if this humour of defaming those who discovered truths, tho' contrary to generally received opinions, had formerly prevailed, no one would have sought after such things as, when found, might be useful to mankind. But why should I give myself so much trouble, if a long course of experience did not manifest

manifest this method to be much safer than the common one: for I am not so senseless as to endeavour to acquire reputation, by exploding the opinions of those, whom I ought to flatter, if I sought after applause. Neither is it to be supposed that I am so abandoned, as to use my authority to compass the destruction of late posterity after my decease, that so I might murder my fellow creatures when I am dead, as well as during my life; which I tremble even to mention (*k*).

24. However it be, I have followed this method in my own children, my nearest relations, and all those I have attended; and am conscious of no error, unless in yielding sometimes to persons of a contrary opinion, to avoid the imputation of moroseness and obstinacy; and for the truth of this I appeal to my intimate acquaintance. But this has not been my sole misfortune; for sometimes, also, notwithstanding, that the attendants had contemned my advice and directions throughout the course of the disease, yet they have charged me with the death of the patient, tho' he perished by the heat which his friends and the nurse promoted, and I exclaimed against so severely (*l*). Hence, I could not help thinking, considering the insuperable prepossession of the multitude, that it would be of service to me, never to be called again to attend any person in this disease.

*He followed
this method
in his chil-
dren and
relations.*

25. I own, indeed, that the *small-pox*, in what manner soever it be treated, will sometimes prove highly confluent; whence this disease is never void of danger, tho' the best method and medicines be used to prevent it. But this I affirm, which is sufficient for my purpose, that 'tis manifest from frequent experience, that he,

*The method
defended.*

(*k*) The candour and integrity of our judicious author are so generally acknowledged, that he is frequently entitled the *candid*, the *honest Sydenham*; and whoever peruses his works with attention, will, I may venture to say, be abundantly convinced that he deserved these appellations; and, consequently, that he must be very far from being guilty of a crime which all good men have in abhorrence.

(*l*) This is too often the hard fate of the most experienced and honest physicians; allowances being seldom made for the perverseness, or irregularity of the patient, and the mismanagement of the attendants. But how unjust, how ungenerous is it to charge them with the faults of others; and impute to them a misfortune which comes purely from a neglect of their wholesome advice and cautions?

he, that refrains from bed in the day time at the beginning of the disease, abstains entirely from flesh, and drinks only small liquors, is abundantly safer than he that confines himself immediately in bed, and takes hot cardiacs. For this method, as abovementioned (*m*), generally occasions only few eruptions, and consequently checks the excessive effervescence of the secondary fever, which not only proves destructive of itself, but by thickening the *saliva* too soon, endangers the patient in the declension of the disease. Moreover, this method is preventive of the *purple-spots* and *bloody-urine*; both which symptoms seize at the beginning of the disease, and often before any sign of the eruption appears, which ordinarily happens, also in the *measles*, *scarlet fever*, and other acute diseases proceeding from a violent inflammation. Not to mention the singular refreshment, the patient finds from the admission of fresh air, every time he is taken out of his warm bed; which, all those that I was suffered to treat in this manner, openly declared, and were very thankful for; having, as it were, received new life and spirits from breathing a freer air (*n*).

The inclinations of the patient to be gratified.

Exemplified.

26. Hence I have been induced to reflect, how much more frequently we are deceived, by the specious appearance of reason, than by sense, of which we have the surest knowledge; whence it should seem, that regard is to be had to the appetites and longings of the patient, in case they be not very irregular or immediately destructive, than is due to the more precarious and fallacious rules of the healing art. To exemplify this: a person in a burning fever, earnestly desires to drink freely of some small liquor to refresh him; but the rules of art, which are built upon some hypothesis, having a different design in view, oppose the appetite of the patient, and, instead thereof, order a cordial. In the mean time, the patient not being suffered to drink small liquor, nauseates all kind of aliment; but art, especially that which is professed by the patients friends and attendants, earnestly requires he should eat. Another, after a long illness from the same cause, begs hard for some uncommon, and, perhaps, pernicious eatable; and here

(*m*) See above, Par. 9.

(*n*) Great caution should be had in this respect in tender and delicate subjects, otherwise fatal effects may ensue.

here again, impertinent art thwarts the inclination of the patient, and threatens him with death if he disobey: unless, perhaps, the artist thoroughly understands this excellent aphorism of the sagacious *Hippocrates*, viz. *Such food as is most grateful, tho' not so wholesome, is to be preferred to that which is better, but disagreeable*(o).

27. Now, he that is but little versed in the practice of physic, will readily grant, after due consideration, that in all these deviations of nature, several patients have found themselves better, upon departing from the directions of their physician, and indulging their own inclinations. Nor will this seem strange, if it be considered, that the all-wise creator has formed the whole with such exquisite order, that as all the evils of nature eminently conspire to compleat the harmony of the whole work; so every being is endowed with a divine direction, which is in a manner, interwoven with its proper essence, whereby it removes those ills from itself. And this is manifest, in the natural termination of many *acute diseases*, (which generally proceed from god, as *chronic* ones do from ourselves) and likewise in the propensions which accompany them, and make way to free the patient from that danger, which art, when exercised by the ignorant, usually occasions. And hence, indeed, the safety of mankind was provided for, who had otherwise been in a melancholy condition, at a time when the healing art was wholly confined within the strait limits of *Greece*, which bears almost as little proportion to the whole world, as a small village does to our own nation. And even at present, what must be the fate of the inhabi-

Proved to answer the best ends.

nants

(o) That this is true, most physicians can testify from their own experience. We have known several persons recover from very desperate and deplorable diseases, after having gratified their appetites, whether by stealth, or the indulgence of the physician, how seemingly irregular soever they were. In effect, however noxious the quality of the thing coveted appears to be, the patient can generally err only in quantity, by taking too much of it. To account for the advantages that accrue from the gratification of these irregular appetites, contrary to the strongest presumptions, in a rational and satisfactory manner, is what I shall leave to those who are delighted with the pursuit of such curious and subtle speculations. Our author in the following paragraph seems to resolve these appetites into a kind of providential instinct, implanted in mankind for their preservation, in which he is to be admired for his religion, to which he every where makes his philosophy subservient.

tants of so many other countries, since all *Asia*, *Africa*, and *America*, (except a few thinly peopled colonies lately established,) and likewise a great part of *Europe*, remain utterly destitute of the art of physick (*p*)? But as an elegant comic writer, distinguishing such as were famous for reason, and the practice of virtue, from the herd of those that disgrace the human form by a brutal life, says, *they are men, if they behave as men*: so likewise the art of medicine, if it be a real art, and not barely a name, is the best gift that mortals are possessed of, and so much more valuable than all others, as life, is preferable to all the enjoyments it brings with it (*q*).

Sometimes
necessary to
confine the
patient in
bed before
the erupti-
on.

28. But, to return to our subject; how advantageous soever it be in general, to keep the patient from bed at the beginning of the disease; yet sometimes, (which is to be observed) he must be wholly confined to it, before the eruption. For instance, when a child after dentition, is suddenly seized with convulsions, we are to consider that probably this arises from the endeavour of nature, to drive out the eruptions of the *small-pox*, *measles*, or *scarlet fever*, tho' they yet lie concealed in the skin. In order, therefore, to guard sufficiently against this dangerous symptom, a blister must be immediately applied to the neck, and the child put to bed, and a cordial exhibited with a small quantity of an opiate; whereby, the cause of the disease may be more forcibly expelled, and the disturbance also quieted, which gave rise to the fit. For instance, for

(*p*) This will perhaps, appear to be alledged without sufficient foundation, unless it be understood in a qualified degree. Medicine, considered as an art, might have been confined within these narrow limits in our author's time: but remedies had been universally sought after, and many were discovered, soon after mankind became subject to diseases; it being natural for them to seek relief. Thus physick had its origin from a principle of self-preservation; and in this sense it may be asserted that no nation, however barbarous, was without some knowledge of it; as being possessed of several experienced remedies for particular disorders.

(*q*) I could willingly expatiate here in the praises of an art, so very beneficial to mankind; which nevertheless is too often made the subject of ridicule and contempt by superficially learned persons, and even by those, who upon the least occasion are glad to have recourse to it, and so teach us by their practice, how little credit is to be given to their raillery and invectives. But I shall resist my inclinations at present, intending hereafter to publish a treatise, which I have by me, proving the excellence, necessity, certainty, and utility of the art of medicine at large, not in an oratorical manner, but from undeniable facts.

a child of three years of age, I prescribe five drops of *liquid laudanum*, in a spoonful of *plague water*, or the like. And in reality, I much suspect, not to affirm it, that some thousands of children, and some grown persons, have been destroyed for want of considering, that these convulsions are only the fore-runners of the abovementioned diseases: whereas, inconsiderate practitioners taking these fits, which are really symptomatic, for essential diseases, and attempting the cure, by a frequent repetition of glysters and other evacuations, hinder the eruption of the *small-pox*, and prolong the fits, which they so solicitously endeavour to conquer; and which would, otherwise, assuredly vanish spontaneously, upon the appearance of the pustules. Besides, the *small-pox* that is preceded by convulsions in children (as we have elsewhere intimated) (*r*), is generally pretty distinct, so that the patient may be put to bed, with much less danger in the beginning of the disease.

29. But I have observed, that the *small-pox*, which immediately succeeds *comatous* disorders proves very confluent, in which case, I rather order a blister, and the opiate, described above, than to let the patient keep his bed before the eruption. For sometimes, tho' very rarely, I have known the fits of intermittents preceded by such convulsions, and have often seen them begun and terminated by *comatous* disorders, both in children, and grown persons; but both these symptoms require no particular treatment, it being only necessary to oppose the fever, which is the primary and essential disease. For, if I were to attend chiefly to these *comatous* disorders, accompanying the fever, and accordingly endeavour to conquer them by bleeding, purging, and repeated glysters; I should heighten the fever, and of course encrease the *coma*, so as to convert it to a fatal lethargy; whereas if I use all my efforts to cure the fever, the other symptoms proceeding therefrom, will easily go off. And this observation deserves to be attended to, because very fatal errors often happen in this point. But I have treated amply of this in another place.

The small-pox which succeeds comatous disorders proves very confluent.

30. I must proceed next to observe, that tho' the patient may sometimes refrain from bed in the day time, yet in case of extreme sickness, a high fever, enormous

Bleeding and a vomit sometimes requisite.

(*r*) See page 96. Par. 2.

enormous vomiting, a vertigo, rheumatic pains of the limbs, and the like disorders; he cannot be indulged this refreshment, these symptoms indicating the contrary; which if they be violent, especially in the young and sanguine, foreshew that a large quantity of the variolous matter is generated in the body, and threaten great danger from the tumultuary eruption of the pustules, which will prove very confluent. In this case, therefore, as all endeavours must be used to check the immoderate ferment, which notwithstanding, on the one hand, will rage more by the continual warmth of the bed, and yet, on the other hand, the patient cannot keep up, by reason of extreme sickness, unless we relieve him; 'tis indispensably necessary to bleed first in the arm, and a few hours after, give a vomit of the infusion of *crocus metallorum*, which not only expels the matter occasioning this unusual sickness, but refreshes the patient so considerably, that being now in a manner well, he is able to refrain from bed. Neither are we to endeavour to weaken the force of the ferment by this method only, but in order to put the patient further out of danger, besides the evacuations just mentioned, it is proper to give him a large dose of *spirit of vitriol* in every draught of small beer till the eruption be over. And notwithstanding these evacuations, and the use of the cooling drink, the patient must refrain from bed in the day time, if he can bear to sit up; because these general remedies do not check the assimilation of the variolous matter, near so much, as once cooling the blood by drawing in the fresh air, and breathing it out by the lungs, which alone immediately abates the symptomatic sickness, abovementioned, as I have sometimes experienced. But this unusual method, is not necessary unless in such as are in the prime of life, whose blood has been over-heated by venery, or wine, and in others (always excepting young children,) who together with the *small-pox* struggle with the abovementioned violent symptoms. For where the blood is less inflamed, and the symptoms milder, as there is much less danger of assimilating the variolous matter too hastily, so of course, neither the abovementioned evacuations, nor the *spirit of vitriol* need be used.

31. I have treated this subject in an ample manner ; because I am well assured that success or failure in this disease, chiefly, if not entirely depends on the procedure in the beginning. But now the eruption being over, (which is compleated on the *sixth* day, from the beginning of the illness, and on the *fourth* inclusive, from the first appearance of the pustules) the patient is not to be kept from bed the rest of the distemper throughout, which indeed, as it ought not to be indulged before this day, so the condition of the patient, will scarce admit of its being longer delayed, if the *small-pox* be of the confluent kind. And let it be remembered, that this is the only species I have hitherto treated of ; for if the eruptions be few, and distinct, it matters not which method be used, provided the physician hath a tolerable degree of skill ; for want of which (tho' this species is naturally void of danger,) abundance have died, who unfortunately fell into the hands of those who, placing all their hopes in promoting the heat, ignorantly assisted the disease to destroy the patient.

When and how long the patient is to be confined in bed.

32. From this time the eruptions encrease in magnitude, and inflame the whole body, especially the head, so that the patient, if not a child, grows restless and cannot sleep readily, which is next to be carefully attended to in this disease ; for the calmer the motion of the blood is, the better the eruptions fill, and come to their due size ; and on the contrary, the more violent it is the more the eruptions sink, their farther progress being checked ; so that the expulsion of the peccant matter, is not only obstructed, but the order and natural progress of every particular *phlegmon* is also disturbed, whence the eruptions either do not come to separation in due time, or instead of *pus* an *ichor* is at length generated, and instead of the yellow matter, resembling the colour of an honey-comb, some black or other præternatural humour, unlike the genuine eruptions of the *small-pox*, is discharged. I conceive, therefore, that *opiates* are as much indicated in the *small-pox*, as any particular remedy in any other disease ; being a kind of specifics here, as the *bark* is in *intermittents* ; tho' I am well aware that they do not operate by an absolute specific virtue, but only by quieting the tumultuary motion of the blood and

Restlessness to be relieved by opiates.

Spirits,

spirits, which always accompanies the confluent *small-pox*, and chiefly demands their use. He therefore, is not enough acquainted with the nature of this disease who esteems these symptoms to proceed only from the watchings: for tho' it may sometimes happen, in case of watchings, that the patient's spirits may be composed and calm, (which frequently proceeds from taking laudanum) so likewise the spirits, being sometimes in violent motion, check the laudable eruption of the pustules, tho' the patient sleeps much; which is well worth observation.

Diacodium
preferred to
laudanum
and in
what dose
to be given.

33. To treat now of the kinds of opiates: tho' I have given *liquid laudanum*, several years successfully, in this case, yet I give the preference to *syrup of poppies*, because I esteem *laudanum* more heating: but both may be used for the same purpose. As to the dose of this syrup, it is to be proportioned to the age of the patient and the urgency of the symptoms; for what might be too much for one whose spirits are composed, would be too little for another, whose spirits are greatly agitated. For instance, suppose in general that six drams is a sufficient dose, yet in the *small pox* when this medicine is required, near an ounce must be given, in order to obtain the desired effect: and as much must be prescribed for a dose, throughout the course of the disease. We speak of grown persons now, for in giving it to children, the dose must be lessened in proportion to their age. Children, however, have not the same occasion for opiates in this disease as grown persons, because they are more disposed to sleep during the course thereof; yet when they are much endangered thereby, I should be afraid to refrain from opiates. But, I was going to observe, that 'tis difficult to settle the dose of opiates where they are required; for whether it be (1) in a tumultuary motion of the spirits; (2) a violent vomiting and purging, or (3) severe pain; these being the three disorders wherein opiates are chiefly indicated, they are to be exhibited in such a manner, that if the first dose avails not, it is to be repeated at proper intervals, till it answers the intention of the physician; having less regard to the quantity taken, than to the effect it should produce; which being answered, it is to be administered less frequently and copiously. Nor must we forget to interpose such a space between every dose

dose that we may be able to learn whether the last has taken effect, before prescribing another; which being obtained, the dose is to be diminished in the course of the disease, as there shall be occasion.

34. I have several observations by me to confirm what I have hitherto laid down, but at present will only set down one. On the 13th of April, 1681, Mrs *Cross*, a neighbour of mine came to me in tears, and earnestly begged I would visit her son, a youth of ten years of age, who having been ill four days, she apprehended the *small-pox*. As I was confined with a fit of the gout, I desired my apothecary to call upon him, and let me know how he was; when he came back, he told me, that the mother had, by the advice of some woman, given him the Countess of *Kent's* powder, and other hot medicines; and had besides, in a manner, buried him under the cloths, in order to raise a sweat by the weight thereof; which the women have recourse to in this disease, as an assured remedy. She had also given him a large quantity of posset drink, wherein *marigold flowers* and *harts-horn* had been boiled, which encreased the fever, and caused such a disturbance of the spirits, that the child was very delirious and could scarce be kept in bed by the attendants. The pustules did not yet appear, at least very visibly, but lay very thick in the skin, the eruption being manifestly hindered by this violent method, which was intended to promote it. I ordered him to be immediately taken out of bed, and not to go into it again except a-nights only, 'till after the *sixth* day; I also prescribed half an ounce of *diacodium* to be taken directly, which proving ineffectual, I ordered the same dose to be repeated an hour after, but unsuccessfully; for the blood was so violently agitated, that it could not be quieted before he had taken two ounces and an half: but such a space was interposed between every dose, that I might be certain what effect the last had. Afterwards, I prescribed only half an ounce to be given every night, at bed-time, to the end of the disease, which proved sufficient to preserve the calm, that had already been obtained by a more frequent use thereof: and by this means the patient recovered.

A case, exemplifying the author's method.

35. And here I must inform you, that in case the Restlessness
heat and motion of the blood and spirits, be extremely *sometimes is*
Z violent 2105

not to be removed by an opiate only.

When to be given first and how long to be continued.

To be given earlier in this than in other diseases.

violent in the beginning, an opiate, tho' given in the largest dose and frequently repeated, will scarce avail, unless the patient quits his bed; for the warmth thereof encreases the heat of the disease, so as, upon this account, to render it necessary to exhibit the opiate in a larger dose, than perhaps nature is able to bear: which likewise happens, but with less danger of life, when the bark is given in an intermittent fever, whilst the patient keeps his bed. And this perhaps may be the reason why the cure of the intermittent is sometimes protracted, which otherwise might have been sooner performed; and sometimes, likewise, if the fever only remits, it is so encreased thereby, as to endanger life.

36. But not to mention extraordinary cases, wherein this remedy may be indicated at any time of the disease; I would have it first exhibited, in the evening when the patient is wholly confined to his bed; (*viz.* the *sixth* from the beginning of the illness) and repeated afterwards every evening till the *seventeenth* day, or at least till the danger is over. For on the *sixth* day the fleshy parts are inflamed, whence the head begins to be disturbed by the humours, which are also inflamed from this cause.

37. But great care must be had to give the opiate earlier in this, than in other diseases; because a kind of fit of heat and restlessness, always comes here towards evening; and sometimes it happens, unless it be given early at the decline of the disease, that the patient becoming suddenly somewhat heavier, immediately grows hot, and afterwards complains of sickness, which soon terminates in death; to the astonishment, and contrary to the expectation of his friends, who a little before conceived great hopes of his recovery: and his death might, perhaps, have been prevented by giving an opiate directly. On these days therefore, but especially on the *eleventh* day, I order the opiate to be given earlier; as at *five* or *six* o'clock in the afternoon, and a second dose to be kept in readiness, in case sickness should come on suddenly. For I am thoroughly persuaded that some of my acquaintance have died, for want of taking this medicine, when the case required it; so that if *opportunity be quick* in any case, it is chiefly so in this.

38. Since

38. Since therefore, 'tis so dangerous, either to omit giving an opiate soon enough, or contrariwise to give it so early, that its quieting virtue be spent before the time comes for repeating it; 'tis safest in this uncertainty, to order an opiate to be taken at a set hour, every morning and night, at the declension of the disease, when there is most danger. Nor is an ounce of *diacodium* always a sufficient dose at these times, for this quantity avails no more in a violent inflammation of the blood, and a very tumultuary motion of the animal spirits, than half an ounce, in a milder disease. For I have learnt from repeated experience, that an ounce and half is required in the young and sanguine, to mitigate the violence of the symptoms wherewith they are seized; and in such subjects, this dose may be repeated with safety and great advantage at such times, morning and night, till the patient recovers.

And at a set hour morning and night.

39. Moreover, I own, that I have sometimes found it necessary at the decline of a bad species of the confluent *small-pox*, to exhibit an opiate thrice in the space of twenty four hours; viz. every eighth hour, on account of the violent motion, or disturbance of the spirits, occasioning some sickness, which required it to be repeated more frequently. But it is to be observed, that if the exhibiting *diacodium* with such frequency, be nauseous to the patient, (which often happens on the abovementioned days,) *liquid laudanum* must be prescribed instead of it; sixteen drops of which are equivalent to an ounce of *diacodium*, in case it be prepared according to our method, already delivered (s).

And sometimes thrice in twenty four hours.

40. I am well aware, that it will be objected by those of a different opinion, that the peccant matter will be fixed, and the salivation diminished by repeating the opiate with such frequency in so large a dose. But to this I answer, that tho' indeed the *ptyalism* will be in some measure abated, it will not however cease so entirely, as not to rise again in some degree, after the opiate has been taken a considerable time, and its virtue is nearly spent, and besides will be attended with this double advantage. (1) The patient being strengthened by the opiate will be better able to expectorate the phlegm, and the *saliva*, tho' less copious, be better concocted. (2) The want of sputation is abundantly

An objection to so frequent a repetition of it answered.

Z 2

supplied

(s) See page 151. par. 14.

supplied by the swelling of the hands and face, which happens more certainly, and rises higher from the repeated use of the opiate, on those days wherein these parts usually swell, *viz.* the face, from the *eighth* to the *eleventh* day, when it commonly begins to fall, but the hands, from the *eleventh* day, till the pustules upon these parts be entirely ripe. And I positively assert, (which every one who is thoroughly acquainted with this disease must acknowledge) that the want of either of these swellings, when they ought to appear, threatens more danger than the stoppage of the salivation. For my own part, I esteem it much safer to risque the danger of checking the *ptyalism* than to refrain from opiates, which are so very requisite in this disease, that whoever deprives his patient of so great a help, betrays much neglect and unskilfulness.

Not to be
given so of-
ten in young
children,
unless in ca-
ses of great
danger.

41. But what I have hitherto delivered, is not to be understood as if I would advise the daily use of *diacodium*, tho' in a suitable dose, in young children afflicted with the confluent *small-pox*, unless it threatens great danger; and this for two reasons; (1) because children are not so hot as persons in the prime of life; and (2) because their tender age is less able to bear the continued use of opiates; whereto may be added, (3) that children in this disease, sleep most part of the time spontaneously, and so are less sensible of the tediousness thereof; yet, nevertheless, when the eruptions are of a bad kind, or they become delirious; opiates are always indicated: these being certain signs of the irregular motion of the blood and animal spirits (*t*).

The chief
curative
indications
specified.

42. These two particulars, which we have treated at large, *viz.* (1) the method of preventing the over-hasty assimilation, of the variolous matter at the beginning of the disease, and (2) the manner of checking the inordinate motion of the spirits, arising from the inflammation of the external parts; are the two points, wherein the cure of the disease consists; inasmuch as the ill accidents which succeed, for want of preventing these two dangers, sufficiently occasion these fatal symptoms, which destroy the patient in this disease.

(*t*) Children are sometimes so fretful and tedious in this disease, that opiates can no more be dispensed with, than in grown persons, and do equal service: many instances of which have fallen under my observation.

disease. These, therefore, being the chief curative indications, when I have sufficiently answered them according to the method just delivered, I have discharged my duty as a physician, and not a prescriber of medicinal *formulæ*; which two arts, talents, or provinces, as you please to term them, differ greatly from each other.

43. To mention one thing more, if there be occasion for a blister, it should be made very large and sufficiently sharp, and applied to the neck, but neither too early, that it may not cease running before the *eleventh* day, which is attended with most danger, nor deferred to that day, so as to prove prejudicial, at this time, from being laid on too late, by encreasing the heat of the blood, which is then scarce able to struggle with the secondary fever. The fittest time, therefore, to apply a blister, is the evening preceding the great *crisis* of the disease, presently after the opiate which is to be taken at this time. For if it be applied now, the pain it causes will go off before the critical day, and there will then be a discharge of the peccant matter, which is necessary to conquer the violent symptoms, happening on this day (*u*). For now the

*A blister
when to be
applied, if
necessary.*

Z 3

swelling

(*u*) With respect to blistering, in this disease, we cannot do better than transcribe some highly useful rules concerning it, from the work of a very able and successful practitioner.

From as much as we know of the nature of this disease, says Dr Hillary, and the effects of blisters, if ratiocination is at all allowed in medicine, we must necessarily conclude, that they are generally, if not always, improper in the *first*, are seldom useful in the *second*, and oftener are applied, than advantage reaped from them, in this *third* stage of the disease, except as revellents,

The only cases in the present situation, in which they can be rationally prescribed, are, in my opinion, the following, *viz.* where the patient is of a lax, weak habit, the pulse low, weak, and depressed, and the fever insufficient for the expulsion and suppuration of the pustules, thro' mere weakness of the solids, and viscosity of the fluids, or where the remote parts of the body are cold, and the eruption is thereupon stopped, or the pustules receded in the *second* stage. Or when the swelling of the face, hands, or feet, in the *third* stage, rise not at the proper time, or too suddenly subside, and nature sinks under the load, or where the *ptyalism* suddenly stops before its usual period, or a *coma*, or *comatus delirium* from a viscosity of the fluids appears, or an afflux of these to the brain; or if the fever is too low. In these circumstances, I say, blistering freely must be of service, and for the very same reasons that must always render them injurious in every stage of the genuine inflammatory *small-pox*, except,

swelling of the face first begins to sink, and the salivation, which had hitherto been copious, to abate; the humour, which occasioned it, being thickened and difficultly raised. Not to mention that the blister supplies, in some measure, the sinking of the swelling of the face and the abatement of the salivation, and, likewise, contributes somewhat to check the secondary fever, which is then very high, the blood being in a manner oppressed and totally infected with the abundance of *pus* absorbed from such a multitude of little impostumes, so that in most of the patients I have treated in this disease, I have observed, that the pulse in the wrist, could scarce be felt at this time, tho' it was easily felt the preceding, and following day.

Efficacy of
garlick ap-
plied to the
soles of the
feet.

44. But amongst all the remedies that occasion a derivation, or a revulsion from the head, none, in my opinion, seems to operate so efficaciously as *garlick* applied to the soles of the feet. That it does really revell, is manifest by the blisters it frequently raises, and the intolerable pain it sometimes, tho' rarely, occasions, by inviting the humours to those parts, even without raising blisters; so that to ease it, I have found it needful to order a cataplasm, made of the crumb of white bread, boiled in milk, to be applied thereto. In grown persons, therefore, afflicted with the *confluent small-pox*, I usually apply *garlick* sliced, and included in linnen, to the soles of the feet, from the *eighth* day, when the swelling of the face first begins to sink, and renew the application every day, till the danger be past.

The regi-
men.

45. I must further observe, that the patient must be kept from flesh throughout the course of the disease, and only allowed small-beer for his common drink. In the mean time, it will be convenient for him to live on water-gruel, roast apples and the like. But upon the approach of the suppuration, when the purulent particles return into the blood, and taint the mass, it will be proper to give a few spoonfuls of wine, every

cept, as we took notice before, they are used as revellents; it being evident from the stranguries, feverish heats, restlessness, and continual thirst, almost always attending the operation of *vesicatories*, that the active and corrosive salts of the *cantharides*, when mixed with the blood in the course of circulation, certainly increase its velocity, and render the inflammation more violent. See his practical essay on the small pox, p. 94, 95.

every morning and night. As to the coverings of the bed they are to be precisely the same he made use of in health; and he is to be permitted to turn himself in bed as he pleases, whereby the symptomatic sweats may be prevented, which I conceive, have been sufficiently shewn to injure the patient; and by this means, the violent inflammation of the pustules, arising from the excessive heat contracted by the fleshy parts, by lying always in the same place, will also be prevented. But I have treated of this at large in another place (x).

46. I will subjoin a late case, as a specimen of this whole procedure. I was sent for this winter by lady Dacres, to attend her nephew, Mr Thomas Chute, a person of a very sanguine constitution, and in the prime of life. The day before I came he was seized with a high fever, vomited a considerable quantity of bilious matter, and had a violent pain in his back. In order to mitigate these symptoms, he went to bed, and by heaping on cloaths and taking hot liquors spent a day to no purpose in endeavouring to force sweat, the great tendency to vomiting, and the purging tho' moderate, rendering the sudorifics ineffectual, and in the mean time increasing the fever. I suspected the *small-pox* would shortly appear, and likewise prove very confluent; both on account of his youth, and the great inflammation raised in his blood by the fruitless attempt to procure sweat, which, if the disease had happened in the summer, would certainly have occasioned *bloody-urine* and *purple-spots*; but chiefly, because I have always observed, that in young persons attacked with excessive vomiting, sickness, and extraordinary pain, the succeeding *small-pox* proved highly confluent. For this reason, judging it requisite to use all endeavours to prevent the too-hasty assimilation of the variolous matter, I kept him up, till his usual time of going to bed; and the next day in the morning, which was the *third*, the *small-pox* not appearing, I directed eight ounces of blood to be taken away from the right arm. The blood was good and florid, having as yet only received the spirituous *miasm*, and not that putrefaction occasioned by a longer continuance of the disease, and generally observable in the blood of persons lately recovered of this disease. The same day at five in the

A case exemplifying the whole procedure.

Z 4

after-

(x). See p. 115. par. 46. and p. 117. par. 50.

afternoon, I exhibited an ounce of the infusion of *crocus metallorum*; which operated well, carrying off his sickness, so that he seemed much better and willingly refrained from bed, which he did not care to quit before by reason of his great sickness and giddiness. On the fourth day in the morning, I found the eruptions coming out so copiously, notwithstanding the endeavours I had used to prevent it, that they threatened the utmost danger, I was, therefore, very cautious to keep him up in the day time, and advised the drinking of small-beer acidulated with *spirit of vitriol*. He continued the use of these things to the sixth day, when, tho' he was not sick, but much refreshed by the fresh air, yet his belly was soluble between whiles; towards night he was obliged to go to bed, which is common in this case, and therefore, he continued therein, by my consent, during the whole course of the disease; the eruption being now over. Tho' the pustules were fewer, than I have observed in some that have died of this disease, yet they were more numerous, than they generally are in most that recover. I first, exhibited this evening, an ounce of *diacodium* in *cowslip flower water*, and directed it to be repeated every night; I likewise, advised, that he should have no more cloths laid on him, than he was accustomed to in health; and prescribed for his diet, water-gruel, barley-broth, and sometimes a roast apple, and for his drink, small-beer. On the eighth day, I ordered sliced garlick, folded in linnen, to be applied to the soles of his feet, and renewed every day, till the danger was past. After this the pustules ripened kindly till the tenth day, when visiting him in the morning, tho' I found him in a fair way, yet I perceived some signs of the secondary fever, along with some kind of restlessness. Apprehending, therefore, the approaching danger, I immediately exhibited the opiate abovementioned, which quieted all the symptoms, and the same evening, I prescribed an ounce and half of *diacodium*. The next morning, which was the eleventh day, (the virtue of the opiate he had taken the night before being spent) he began to grow restless again; whereupon I gave him the same quantity immediately, and repeated it in the evening, and ordered it to be continued morning and night, till he was perfectly recovered. The patient complied,

complied, and no dangerous symptom afterwards appeared, except a suppression of urine sometimes, which frequently attacks young persons in this disease, but he made water kneeling in bed. As to the salivation, tho' it was checked in some measure by the frequent repetition of opiates in so large a dose; yet at distant intervals from the use of them, he expectorated concocted phlegm, and his face and hands swelled sufficiently at the proper time. On the eighteenth day he rose from bed, and I then first allowed him to sup some chicken broth, and afterwards he returned by degrees to his usual manner of living. On the twentyfirst day, eight ounces of blood was taken away from his arm, which resembled pleuritic blood, and differed little from *pus*. Lastly, he was purged four times, at proper intervals.

47. It is here to be noted, that as often as the day from the beginning of the illness is mentioned in these sheets, for instance, the *sixth*, the *eleventh*, &c. I would not be understood to insinuate that the *confluent small-pox* always came out on the third day; because I am well aware that sometimes, even in the worst species thereof, the pustules do not appear 'till after the *third* day. But in general, the eruption happens on the *third* day, inclusive from the beginning of the disease. For instance, a person who is seized with the *confluent small-pox* on *monday*, will find the pustules appear on the *wednesday* following; and the second *thursday* after the first *monday*, will be the *eleventh* day, which is highly dangerous, unless the physician prevent it.

The day from the beginning of the illness how to be understood.

48. And I repeat it here once more, that these observations relate only to the *confluent small-pox*, and are no way useful, or required in the *distinct* kind. These, therefore, who boast of curing this disease, when the eruptions are few and of the *distinct* kind, impose upon themselves, as well as others. But if they have a mind to make trial of their knowledge, let it be in the *confluent small-pox*, especially in such subjects as are seized with it in the vigour of life, or have overheated themselves by drinking wine too freely; lest being exercised only in light matters, they should be so far mistaken as to imagine they have saved those, whom they have not destroyed,

These observations relate only to the confluent small-pox.

49. But

The history
of a patient
of Dr.
Goodall's
in a fever.

49. But I will not finish this short dissertation, without relating a history which was communicated to me, whilst I was writing it, by my intimate friend Dr Charles Goodall, a fellow, and then censor of the college of physicians, judging it necessary, in order to confirm what I have advanced, here and in my other writings, concerning *purple-spots* and *bloody-urine*: for both these symptoms, when they happen in acute diseases, proceed entirely from a violent inflammation of the blood, and therefore indicate cooling remedies. The case is as follows.

“ 50. A young man of about twenty seven years
“ of age, slender and of a hot constitution, was
“ seized in June 1681, with a violent continued
“ fever, attended with a dryness and foulness of the
“ tongue, extreme thirst, a quick pulse, pain in the
“ parts contiguous to the *scrobiculum cordis*, but espe-
“ cially in the back, where it was continual, and
“ sometimes *bloody-urine*, and numerous brownish
“ spots in the neck, breast and wrists. The physician
“ was called on the sixth day, he found the patient in
“ great danger from the copious discharge of *bloody-urine*;
“ and upon this account judged, that the cu-
“ rative indications were, (1) to cool and thicken the
“ blood, and (2) close the mouths of the relaxed
“ vessels of the kidneys.

“ 51. Bleeding, therefore, and a lenitive bolus being
“ premised, he earnestly advised the patient to refrain
“ from bed, as much as he could, not doubting that
“ the voiding *bloody-urine* was promoted by the con-
“ tinual warmth thereof. He also recommended him
“ rather to sleep upon a leathern couch, and seldom
“ to lie on his back; to drink milk-boiled with thrice
“ its quantity of water, and live on panada, rice milk
“ and roast apples, either alone, or squeezed into
“ water and sweeten'd with sugar. And he prescribed
“ the following remedies.

An astring-
gent infu-
sion.

Take of the leaves of red roses, six drams; the inner
bark of oak, half an ounce; the seeds of plantain,
three drams; spring water, two pints; spirits of
vitriol, enough to give it a grateful tartness; infuse
them together in a closed vessel with a gentle heat,
four or six hours: to the strained liquor add three
ounces

ounces of small cinnamon water; and fine sugar enough to sweeten it. Let the patient drink often of this infusion day and night.

“ A glyster of milk and syrup of violets was injected at two in the afternoon; and the following draught exhibited at bed-time.

Take of distilled waters of cowslip flowers, plantain and cinnamon, of each half an ounce; distilled vinegar, two drams; syrup of white poppies, six drams; mix them together. *An anodyne draught.*

52. “ On the seventh day, the symptoms abating little, the glyster just described was ordered to be injected every day, and the following emulsion and draught prescribed.

Take of the seeds of succory, endive, lettuce, and purslain, each two drams; the seeds of quinces and white poppies, each a dram and half; four sweet almonds, blanched; beat them very well in a marble mortar; then pour on by degrees a pint and half of barley-water, sweeten the strained liquor with a sufficient quantity of fine sugar. Let twelve spoonfuls of this emulsion be taken every four hours. *A cooling emulsion.*

Take of the distill'd waters of cowslip flowers, water lilies, oak-buds and plantain, each half an ounce; distill'd vinegar and small cinnamon water, each three drams; confecti^on of hyacinth, half a dram; diacodium, an ounce: mix them together for a draught to be taken at bed time. *An anodyne draught.*

“ 53. On the eighth day, as the fever still continued, and the patient voided much bloody urine, and the spots likewise were numerous in the abovementioned parts, the physician, supposing these symptoms to proceed from the heat, thinness and acrimony of the blood, ordered bleeding to be repeated and allowed a freer use of small beer agreeably acidulated with spirits of vitriol. But when the patient began to have an aversion to this liquor, a whey made of milk and juice of lemons was substituted in its stead, and he was likewise permitted to eat lemons thinly sliced, and enveloped with sugar and to these the following remedies were added. *Take*

An astringent electuary.

Take of the conserves of wood-sorrel and hips, each half an ounce; confection of hyacinth, three drams; diascordium, a dram and half; red coral prepared, dragon's blood, armenian bole, of each a scruple; syrup of Comfrey and mouse-ear, of each enough to make the whole into an Electuary; of which the Quantity of a hazle-nut is to be taken every six hours, drinking after it a small Draught of whey, made with milk and juice of lemons and sweetened with sugar; or of the vulnerary decoction, acidulated with spirit of vitriol.

“ Let the draught prescribed last night be repeated with ten drams of diacodium.

54. “ On the ninth day the petechiæ vanish'd by degrees, the urine was not so bloody, and the blood that was mixed with it separated more easily, and subsided sooner to the bottom of the containing vessel; for which reason the patient was advised to continue the use of these remedies; and in a few days the following were added to the same purpose.

A restraining electuary.

Take of the conserve of roses, (driven thro' a sieve and acidulated with spirit of vitriol) four ounces; Luca-tellus's balsam, two ounces; armenian bole, dragon's blood, and the species of the electuary of coral, each a dram; syrup of coral, enough to make them into an electuary; of which let the patient take the quantity of a nutmeg, twice a day, with a draught of the following emulsion.

An invasi-
fating e-
mulsion.

Take of the seeds of lettuce and purslain, each three drams; quince seed, a dram and half; the seeds of white poppies, half an ounce; five sweet almonds blanched; beat them well together in a marble mortar; then pour on by degrees a quart of plantain water, and three ounces of small cinnamon water; lastly sweeten the strain'd liquor with fine sugar.

“ The fever and the fatal symptoms abovemention-
“ ed were carried off in three weeks by these remedies;
“ and the spots disappearing and the urine returning
“ to its natural colour and consistence, the patient by
“ degrees recovered his health.”

55. But tho' the symptoms above enumerated only accompanied the continued fever, and not the *small-pox*, yet, whenever they happen in either disease, they always proceed from a violent inflammation and an excessive attenuation of the blood, whence it is forcibly driven thro' the mouths of the vessels. And doubtless the same method is to be used in such a similitude of causes, as far as the nature of the respective diseases will admit. And, for this reason, I ask'd Dr. *Goodall's* leave to communicate this cure here. Now if my greatest enemy, (tho' to judge of the dispositions of others by my own, I should hope I have none) had performed this cure, I should readily have acknowledged, being overcome by truth, that it was one of the most remarkable I had ever known for I have long ago experienced the fatal effects of *bloody-urine* in fevers. But as this was effected by my intimate friend, how zealously ought I to contend for truth, and his reputation? For this gentleman it was, who, at a time when few ventur'd to assert that I had made the least improvement in physic, defended my reputation against a multitude of opponents, with as much warmth as a son would do that of his father. But tho' I am so much indebted to his goodness, I would nevertheless have concealed his praises if they were not due to his merit; it being equally blame-worthy and false to commend or censure without cause. Let no one therefore be displeased with me for affirming, that he is a man of as much probity as I have ever known; for during the many years that I have been particularly intimate with him, I never knew him say, much less do, any thing to the prejudice of another. And how excellent a physician he is will shortly appear, (provided his life be prolonged) as he hath with great judgment read the writings both of the ancient and modern physicians, and, with singular prudence and industry, investigated the nicest rules of practice, without a knowledge of which no man can practice the art with reputation; so that his patients will find him an able and successful practitioner, inferior to none.

Bloody-urine and purple spots require the same treatment in fevers, and the small-pox.

Dr. *Goodall* commended,

56. And now I have delivered my sentiments on this disease, which are deduced from practical observation, and not from a groundless hypothesis; and in reality I cannot conceive how a person should be mistaken,

The author's sentiments on the small pox deriv'd from observation.

taken, who directs and confines all his reasonings to the bare practice of the art or science which he intends to learn and exercise with reputation. And, on the contrary, how it is possible that he should do any thing but spend his life idly in deceiving both himself and others, who employs his time in searching after such things as have not the least relation to practice. And as he would be a dishonest and unsuccessful pilot, who were to apply himself with less industry to discover and avoid rocks and sands, than to search into the causes of the ebbing and flowing of the sea; which is well deserving the attention of a philosopher, but quite foreign to him, whose only business it is to secure the ship; so neither will a physician, whose province it is only to cure diseases, arrive at a perfect knowledge of the art of medicine, tho' he be a person of genius, who bestows less time and application in investigating the hidden and intricate method of nature in producing and nourishing diseases, whereon their histories also depend, and adapting suitable remedies thereto; than in curious and subtle speculations, that do not at all contribute to snatch the patient from imminent death, which is the intent of the healing art. And this delusory procedure does not only deprive mankind of those singular advantages, which would accrue to them from the ingenuity of many physicians, but renders the art of physic, rather the art of discoursing than of *curing*. And 'tis come at length to this issue that the patient must live or die, as the philosopher conjectures right or wrong; which must always be highly precarious inasmuch as the first inventors of speculations contended as warmly about their fanciful opinions, as those did who blindly followed them, and it may be none of them in the right. For, tho' by much attention we may be able to discover what nature does in fact and the organs she employs in her operations; yet the manner of its operating will always be a secret to us. Nor is this strange; since it is infinitely more probable, that we poor mortals who are shut out from the glorious regions of light and life, cannot possibly comprehend the method which the all-wise creator used in forming the machine; than that an unskilful smith should be ignorant of the manner of making a clock, the structure and motion whereof manifest the great delicacy of the art.

art. And tho' it evidently appears that the brain is the origin of sense and motion and the repository likewise of thought and memory, 'tis nevertheless impossible the mind should be so far enlightened by the most exact inspection and consideration thereof, as to understand how so thick a substance, and a kind of sculp which seems not to be very artfully form'd, should suffice for so noble an use, and such excellent faculties. Nor can it be accounted for, from the nature and structure of its parts, how any particular faculty comes to be exerted thereby.

57. And let these particulars suffice for the *confluent small-pox*; which together with what I have already published concerning this distemper, in my history of acute diseases, comprehends all that I have hitherto discovered and considered, as attentively as I could, relating thereto.

58. I proceed now, in compliance with your request, to communicate the observations I have hitherto made concerning *hysteric disorders*; which I own are neither so easily discoverable, nor so readily curable as other diseases. However I will endeavour to acquit my self herein to the best of my ability, and with that brevity which the compass of a letter requires; which in reality I am oblig'd to on account of my ill health, particularly at this season of the year, when too intense application would immediately bring on a fit of the gout. For this reason I shall avoid prolixity, and proceed according to my usual method; which consists (1) in giving a short history of the disease, according to its genuine natural phaenomena; and (2) subjoining the method of cure which hath succeeded best with me, and which I formerly learnt rather from my own experience than from reading.

The author's observations on hysteric disorders deduced from his own experience.

59. It should seem that no chronic disease occurs so frequently as this; and that, as fevers with their attendants constitute two thirds of the diseases to which mankind are liable upon comparing them with the whole tribe of chronic distempers, so hysteric disorders, or at least such as are so called, make up half the remaining third part, that is they constitute one moiety of chronic distempers. For few women, (which sex makes one half of the grown persons) excepting such as work and fare hardly, are quite free from every species of this disorder

Hysteric disorders make a moiety of chronic diseases.

der, several men also, who lead a sedentary life and study hard, are afflicted with the same. And tho' the symptoms, arising from hysteric diseases, were, by the antients, supposed to proceed from some disorder in the womb; yet upon comparing hypochondriac complaints, which we judge to arise from obstructions of the spleen and other *viscera*, with those symptoms, which seize hysteric women, we find a great similitude between them (a). But it must be own'd that women are

(a) The *hysteric passion*, says *Hoffman*, is falsely held by several modern writers to be the same with the *hypochondriac disease*, or to differ only with respect to the sex, and not in nature; the latter only seizing men, and the former women. But to shew that there is a real difference between them, it would be worth while to give a true history of the hysteric disease; to which end if we consult the antients, and especially *Hippocrates*, *Aretæus*, *Fernelius*, *Dinetus*, *Montanus*, *Ballonius*, *Hollerius*, *Mercurialis*, and *J. Heurnius*, they seem unanimously of opinion that a strangulation of the fauces, quick and difficult respiration, so as to endanger suffocation, loss of speech and all sense and motion, are to be accounted the proper and essential symptoms of this uterine distemper. And, in effect, tho' both the hypochondriac and hysteric disease appear to have some symptoms in common, yet they have several peculiar ones respectively, which fully manifest that they differ considerably from each other. Thus the *hypochondriac disease* is an inveterate disease, and requires a tedious process in order to the cure of it; whereas, experience shews, that the *hysteric disease* often attacks pregnant and lying-in women with great severity, and also widows that are full of blood, after some considerable disturbance of mind, and virgins upon a sudden stoppage of the menstrual discharge, and yet they are frequently freed from it so effectually that it never returns again. Moreover this disease often seizes women of a sudden, so that they fall down directly without sense and motion; which is never observed to happen in the hypochondriac disease. And this is further remarkable in *hysteric paroxysms*, that the symptoms, tho' they lie without sense and motion, will often abate soon, or go off entirely, upon holding burnt feathers, flaming under the nose. Again, in these fits the abdominal muscles are drawn inwards by the violence of the spasms, so that the navel in great part disappears; whereas in *hypochondriac disorders* the abdomen rather appears swell'd outwards, and protuberant. Hysteric subjects are also affected with so piercing and incredible a cold in the region of the loins, that it may be perceived by laying the hand thereon, and does not abate upon applying warm cloths to it; and they often have a fixt acute pain in the top of the head, which is confin'd within a small compass, and is usually entitled the *clavus hystericus*; and abundance of persons perceive a kind of globe to ascend from the lower belly towards the thorax: all which symptoms never happen in the *hypochondriac disease*. Neither does fainting, and a difficult respiration, threatening suffocation of a sudden, along with so violent a strangulation

are oftner attack'd with these disorders than men; not indeed because the *womb* is more indisposed than any other part of the body, but for reasons hereafter to be explained.

60. This

gulation of the *fauces* occur so frequently in this distemper, as in the *hysteric passion*. And lastly, no *hypochondriacs* were ever judg'd to be dead, and intended to be interr'd; which hath been the case in *hysteric* subjects, as we learn from some histories worthy of credit.

We should not have laid so much stress on the difference between the two diseases, and the necessity of distinguishing them accurately, but for its great usefulness in practice. For the best remedies in the *hypochondriac disease* are, vehement exercise, carminatives, spirituous and volatile medicines, stomachics, and aromatics, stimulating neutral salts, mineral waters, solutive bitters, and especially chalybeates: but these rather do hurt in the *hysteric disease*, which is most relieved by bleeding, opiates, nitrous medicines, anti-epileptics, coolers, drinking cold water and whey, and avoiding all hot things, not excepting wine.

The same author recommends *warm bathing* in the *hypochondriac disease* in the following terms. — But there is no case wherein this remedy, (namely *warm bathing*) proves of greater service than in the hypochondriacal disease; which is not only a stubborn, but also a reigning evil, at this time; being commonly attended with a grievous train of symptoms, without intermission; and causing great perplexity to physicians, who have not hitherto discovered its perfect cure. To speak the truth, there is no better or more effectual remedy, for relieving and eradicating this distemper, than a proper use of the *hot and cold mineral waters*. But here we must observe that *bathing* in the purest, and lightest water, wonderfully second the internal use of *medicinal springs*. For those waters which are properest in drinking, as containing a considerable proportion of a heavy, earthy, and saline, or astringent, irony matter, are not so proper for the purpose of bathing, in this distemper, as the purer. This has been confirmed to me by long experience of the hot *Caroline* astringent spring. And hysterical women receive the same advantages from warm bathing, as hypochondriacal men.

To discover the reason of the noble effects of *warm bathing*, in these cases, we must first examine into the seat, the origin, the nature, and the symptoms of the hypochondriacal disorder. and when all things are considered, it certainly appears to reside in that nervous and membranous tube, wherein the aliment is digested, dissolved, and discharged; that is, in the stomach and intestines; the peristaltic motion whereof, which naturally consists in a reciprocal dilation and contraction, is plainly disturbed, or even inverted. And this chiefly proceeds from certain spasmodic, and convulsive contractions; whereby, if the lower parts of the intestines are affected, especially when full, the excrements are not only detained in the tube, but flatulencies, or windy vapours, generated, and pent up; so as to rise, and violently distend the smaller guts and the stomach. And thus all the nervous parts endowed with an exquisite sense, are, by what the

Appears in
derivative
forms.

60. This disease is not more remarkable for its frequency, than for the numerous forms under which it appears, resembling most of the distempers wherewith mankind are afflicted. For in whatever part of the body it be seated, it immediately produces such symptoms as are peculiar thereto; so that unless the physician be a person of judgment and penetration he will be mistaken, and suppose such symptoms to arise from some essential disease of this or that particular part, and not from the *hysteric passion*.

The hysteric
passion some-
times re-
sembles an
apoplexy.

61. To exemplify this remark. Sometimes it attacks the head and causes an *apoplexy*, which also terminates in an *hemiplegia*; exactly resembling that kind of *apoplexy* which proves fatal to some aged and corpulent persons, and arises from an obstruction and compression of the nerves, occasioned by a copious phlegm contained in the cortical part of the brain. But the *apoplexy* in hysteric women seems to proceed from a very different cause; for it seizes them frequently after a difficult delivery, attended with a great loss of blood, or proceeds from some violent commotion of mind.

62. Sometimes

ancients call, *consent*, drawn into a similar spasmodic motion; whence proceed that numerous train of symptoms which afflict nearly all the parts of the body. If this disorder has only a transient cause, not seated in the substance of the *viscera*, it receives an easy cure by proper remedies. But if it also seizes upon the *viscera*, especially the *pancreas*, the liver, the spleen, or the mesentery; and the coats of the intestines be injured, and destroyed; a thorough cure is very hard to effect: for the case is rather exasperated and at length sometimes rendered incurable, by a frequent change of physicians, and medicines; with which people in this distemper vainly amuse and deceive themselves. From hence every physician will perceive, that of all remedies, none is so efficacious as a warm, innocent fluid, properly used, both externally and internally, for restoring the natural tone, or tension of the intestinal tube; easing and relaxing the spasmodic contractions of these parts; and re-instating the inverted peristaltic motion; or directing it to its natural tendency downwards. For thus, by its agreeable warmth, it gently mollifies and relaxes the hardened and crisped fibres, recalls the blood and humours, that were before excluded, and causes a free circulation of the juices thro' the vessels of the intestines. See *new exper. on min. waters* &c. p. 190, 191, 192.

It may not be amiss to observe that hysteric and hypochondriac disorders are sometimes complicated in the same subject; some few instances whereof have fallen under my own observation, and others may be met with in practical writers: but this seldom, or never happens in men.

62. Sometimes it causes terrible convulsions much like the *epilepsy*, along with a rising of the *abdomen* and *viscera* towards the throat, and such strong convulsive motions, that tho' the patient be otherwise rather weak, she can scarce be held by the attendants. And she talks wildly and unintelligibly, and beats her breast. This species of the disease, which is commonly entitled the *strangulation of the womb*, or *fits of the mother*, happens most frequently to such women as are of a very sanguine and robust constitution.

Sometimes
an epilepsy.

63. Sometimes this disease attacks the external part of the Head, between the *pericranium* and the *cranium*, and occasions violent pain, which continues fixt in one place, not exceeding the breadth of the thumb, and it is likewise accompanied with enormous vomiting. I call this species the *clavus hystericus*, which chiefly affects such as have the *green-sickness*.

Sometimes
a vehement
pain in the
head, with
excessive
vomiting.

64. Sometimes it seizes the vital parts, and causes so violent a *palpitation of the Heart*, that the patient is persuaded, those about her must needs hear the heart strike against the ribs. Slender and weakly women, that seem consumptive, and girls that have the *green-sickness* are chiefly subject to this species.

Sometimes
it causes a
palpitation
of the
heart.

65. Sometimes it affects the lungs, causing an almost perpetual *dry cough*; and tho' it does not shake the breast so violently yet the fits are more frequent, and the patient's senses are also disordered. But this species of the *hysteric cough* is very rare, and chiefly happens to women of a phlegmatic constitution.

Sometimes
a dry
cough.

66. Sometimes attacking the parts beneath the *scrobiculum-cordis* in a violent manner, it occasions extreme pain, like the *iliac passion*; and is attended with a copious vomiting of a certain green matter, nearly resembling what is usually called *porraceous bile*, and sometimes the matter is of an uncommon colour. And frequently after the pain and vomiting have continued several days, and greatly debilitated the patient, the fit is at length terminated by an universal *jaundice*. Moreover, the patient is so highly terrified, as to despair of recovering; and, as far as I have observed, this dejection or despondency as certainly accompanies this species of the hysteric passion, as either the pains or vomiting abovementioned. This kind chiefly attacks

Sometimes
a disorder
resembling
the iliac
passion.

women of a crude and lax texture of body, or those who have suffered much by being delivered of large children.

*Sometimes
a disorder
resembling
a fit of the
stone.*

67. Sometimes this disease seizes one of the kidneys, where, by the violent pain it occasions, it entirely resembles a *fit of the stone*, not only with respect to the kind of pain, and the part affected, but likewise by the violent vomiting wherewith it is accompanied, and the pain's extending thro' the whole duct of the *ureter*: So that 'tis hard to distinguish, whether the symptoms arise from the stone or an hysterical disorder; unless, perhaps, some misfortune having depress'd the woman's spirits, a little before the disorder came on, or the discharge of green matter by vomit, should shew that the symptoms are rather to be ascrib'd to an hysterical disorder than the stone. The bladder also is occasionally affected with this delusory Symptom, causing pain and a suppression of urine, as in the case of an obstruction of the urinary passages from a stone. This last species rarely happens, but the former more frequently. Both are accustomed to attack such women, as are greatly debilitated by frequent hysterical fits.

*Sometimes
it occasions
a continual
vomiting or
purging.*

68. Sometimes seizing the stomach, it causes continual vomiting, and sometimes fixing in the intestines, occasions a *purging*, but both these symptoms are without pain, tho' the abovementioned green humour frequently appears in both. Such also as have been weakened by frequent hysterical fits are chiefly subject to both these species.

*Sometimes
it attacks
the external
parts, cau-
sing a pain,
or tumour of
the FAU-
CES, Shoul-
ders, &c.*

69. Moreover, as this disease affects most of the internal parts, so likewise it sometimes attacks the external parts, and muscular flesh, sometimes causing pain, and sometimes a tumour in the FAUCES, shoulders, hands, legs, and ankles, in which kind the swelling which distends the legs is most remarkable. But whereas in dropical swellings these two particulars may always be observed, namely (1) they encrease towards night, and (2) pit, and keep depress'd for some time after the finger is forced against them; in this tumour the swelling is largest in the morning, and does not yield to the finger, or leave any mark behind it, and it generally only swells one of the legs. In other respects if the magnitude and surface of it be observed

observed, it differs so little from dropical tumours that the patient can scarce be persuaded to think it otherwise.

70. The *teeth* also (which one would scarce believe) *Sometimes the teeth.* are subject to this disease; tho' free from the least cavity, and manifest defluxion that might cause pain, which nevertheless is not at all milder, of shorter duration, or more easily curable. But the pains and swellings that afflict the external parts, chiefly happen to such women, as are nearly worn out from the long continuance and violence of hysteric fits.

71. But the most frequent of all the tormenting symptoms of this disease is a *pain of the back*, which *Is generally accompanied with a pain of the back.* generally accompanies even the slightest degree hereof. The abovementioned pains likewise have this effect in common, that the part they affect cannot bear the touch after they are gone off, but remains tender and painful as if it had been severely beaten; but this tenderness wears away by degrees.

72. It is likewise well worth noting, that all these symptoms are preceded by a remarkable *coldness of the external parts*, which seldom goes off, before the fit ceases. And I have observed, that this coldness resembles that which is perceiv'd in dead bodies, the pulse, notwithstanding, continuing regular. Whereto may be added, that most of the hysteric women that I have hitherto treated, have complained of a *lowness*, and (to use their expression) a *sinking of the spirits*; which, by their pointing to the region of the lungs to mark the part affected, seem'd to be seated there. Lastly, 'tis generally known that hysteric women sometimes *laugh*, and sometimes *cry* without the least apparent provocation. *All its symptoms preceded by a remarkable coldness of the outward parts.*

73. But amongst the symptoms accompanying this disease, the most peculiar and general one is, the voiding a *copious limpid transparent urine*; which upon diligent enquiry, I find to be the distinguishing sign of those disorders which we call *hypochondriac* in men, and *hysteric* in women. And I have sometimes observed in men, that soon after having made urine of an amber colour, being suddenly seiz'd with some extraordinary disturbance of mind, they have evacuated a transparent urine in plenty, with a continued violent

This disease generally attended with a copious discharge of limpid urine.

Of the Small-pox

stream, and remained indisposed till the urine came to its former colour, when the fit went off.

And sometimes with fetid and highly acid eructations.

74. Moreover in *hysteric* and *hypochondriac* subjects, when the disease has been of long standing, they have *fetid* and sometimes highly *acid eructations*, after eating, tho' they eat moderately, according to the appetite; the digestive faculty being greatly impaired, and the juices vitiated.

And with a great disturbance of mind and lowness of spirits.

75. But their misfortune does not only proceed from a great indisposition of body, for the *mind* is still more disordered; it being the nature of this disease to be attended with an incurable *despair*; so that they cannot bear with patience to be told that there is hopes of their recovery, easily imagining that they are liable to all the miseries that can befall mankind; and prefiguring the worst evils to themselves. Upon the least occasion also they indulge terror, anger, distrust, and other hateful passions; and are enemies to joy and hope; which if they accidentally arise, as they seldom do, quickly flie away, and yet disturb the mind as much as the depressing passions do, so that they observe no mean in any thing, and are only settled in inconsistency. They love the same persons extravagantly at one time, and soon after hate them without a cause; this instant they propose doing one thing, and the next change their mind, and enter upon something contrary to it, but without finishing it; so unsettled is their mind, that they are never at rest. What the *Roman* orator asserts of the superstitious, agrees exactly with these melancholic persons. *Sleep seems to be a relief from labour and inquietude, but from this many cares and fears arise*; their dreams being ever accompanied with the representation of the funerals and apparitions of their departed friends. And so much are they distempered in body and mind, that it seems as if this life were a purgatory, to expiate offences committed in a pre-existent state. Nor is this the case only in furious maniacs, but even in those, who, excepting these violent passions, are judicious persons, and for profoundness of thought, and solidity of speech greatly excel those whose minds were never disturbed by these tormenting thoughts. So that the observation of *Aristotle* is just, who asserts that *melancholy persons are the most ingenious*.

76. But this very dreadful state of mind which I have mention'd above, only attacks such as have been much and long afflicted with this disease, and are at length overcome thereby; especially if misfortunes, grief, care, hard study and the like, along with an ill habit of body, have contributed thereto.

Especially when the disease hath been of long standing.

77. It would take up too much time to enumerate all the symptoms belonging to hysteric diseases; so much do they vary, and differ from each other. *Democritus* therefore in writing to *Hippocrates*, seems to have had reason to assert, tho' he mistook the cause of the disease, *that the womb was the origin of six hundred evils, and innumerable calamities.* Nor do they only differ so greatly, but are so irregular likewise, that they cannot be comprehended under any uniform appearance, as is usual in other diseases; but are a kind of disorderly train of symptoms; so that 'tis a difficult task to write the history of this disease.

Hard to enumerate all its symptoms.

78. The *Procatartick*, or external causes thereof are either violent motions of the body, or, more frequently, some great commotion of mind, occasioned by some sudden fit, either of anger, grief, terror, or the like passions. Upon this account, whenever I am consulted by women concerning any particular disorder, which cannot be accounted for on the common principles of investigating diseases, I always enquire, whether they are not chiefly attack'd with it after fretting, or any disturbance of mind; and if they acknowledge this, I am well assured that the disease is to be ascrib'd to the tribe of disorders under consideration, especially if the diagnostic appears more evident by a copious discharge of limpid urine at certain times. But to these disturbances of mind, which are the usual causes of this disease, must be added, emptiness of the stomach, from long fasting, or immoderate evacuations, whether by bleeding too profusely, or giving too strong emetics, or cathartics. (b)

The external causes thereof.

A a 4

79. Having

(b) This disease in general may be said to arise primarily from weak nerves, and poor thin watery juices, whence the circulation is languid and slow, and the secretions and exertions imperfectly performed. Consequently whatever tends to debilitate the nervous system, and impoverish the juices may be enumerated amongst the

*Its internal
and efficient
causes, irre-
gular mo-
tions of the
animal spi-
rits.*

79. Having now given a full description of this disease, according to its common symptoms, we are next to consider the *internal efficient causes* thereof, so far as these can be discovered from all the circumstances which we have described, taken together. And, in my opinion, disorders, which we term hysteric in women and hypochondriac in men, arise from *irregular motions of the animal spirits*, whence they are hurried with violence, and too copiously to a particular part, occasioning convulsions and pain, when they exert their force upon parts of delicate sensation; and destroying the functions of the respective organs which they enter into, and of those also whence they came; both being highly injur'd by this unequal distribution, which quite perverts the œconomy of nature.

*And these
proceed
from their
weak tex-
ture.*

80. The origin and *antecedent cause*, of these irregular motions of the spirits, proceeds from their *weak texture*, whether it be natural or adventitious, whence they are easily dissipable upon the least accident and their office perverted. For as the body is composed of parts which are manifest to the senses, so doubtless the mind consists in a regular frame or make of the spirits, which is only the object of reason. And this being so intimately united with the temperament of the body, is more or less disordered, according as the constituent parts thereof, given us by nature, are more or less firm. Hence women are more frequently affected with this disease than men, because they have receiv'd from nature a finer and more delicate constitution of body, being designed for an easier life and the pleasure of men, who were made robust, that they might be able to cultivate the earth, hunt and kill wild beasts for food, and undergo the like violent exercises.

*This opinion
illustrated
and exem-
plified by
the stran-
gulation of
the womb.*

81. But that the irregular motion of the spirits is the cause of this, is fully manifest from the symptoms just enumerated; I will only mention the principal, beginning with that remarkable one, the *strangulation of the womb*, or *fits of the mother*. In this case the spirits being copiously collected in the lower belly, are

the external or manifest causes thereof; such as violent exercise, considerable commotions of mind however occasioned, emptiness, long fasting, watching, all immoderate evacuations, &c. See above Par. 80.

are thence derived with violence to the *fauces*, occasioning convulsions in all the parts they pass through, and puffing up the belly like a ball; which however is only a kind of convulsion of the convulsed parts, which cannot be suppress'd without using violent means. The external parts and the flesh in the mean time, being in great measure destitute of spirits, which are carried another way, frequently become so cold, both in this, and all the other species of hysteric disorders; that dead bodies are not colder, whilst the pulse remains in its natural state: this symptom however is not dangerous, unless it be owing to some preceding excessive evacuation.

82. The same may be said of that violent species of this disorder, which in outward appearance resembles the *bilious colic*, or *iliac passion*; wherein the patient is afflicted with a very violent pain, in the parts contiguous to the *scrobiculum cordis*, along with a copious discharge of green matter, by vomit; which symptom proceeds only from a forcible impulse of the spirits stagnating in those parts, occasioning the pain, convulsion, and loss of their functions.

And the disorder resembling the bilious colic or iliac passion.

83. For it is not immediately to be concluded, because the discharges upwards and downwards, in this disorder are sometimes *green*, that it is seated in the fluids, or that the violent pain proceeds from the acrimony of some humour vellicating the parts to which it adheres, which for this reason we should esteem the cause of the disease, and therefore judge that it ought to be thoroughly expelled by emetics and cathartics. For it appears that the sickness, which seizes those who go to sea, occasioned by the agitation of the animal spirits from the violent and uneven motion of the ship, is attended in healthy subjects with vomiting of green matter, tho' but half an hour before no such bile as we term *porraceous* existed in the body. Again, do not children in convulsive fits, in which the animal spirits are principally disordered, evacuate a matter of the same colour upwards and downwards? whereto must be subjoined, what is manifest from daily experience, *viz.* that tho' such women children should be thoroughly cleansed by repeated purgatives; yet the greenness would still appear in the discharges upwards and downwards. Moreover the green matter

Whence the green colour of the matters discharged upwards, and downwards

matter encreases upon the frequent use either of emetics, or cathartics; because both these evacuations cause a greater disturbance of the animal spirits; which, I cannot tell how, quite destroys the ferment of those parts, or thro' the violence of the convulsions forces some juice of a foreign nature into the stomach and intestines, which has the property of tinging the juices of this colour. The Chemists indeed, tho' they cannot furnish us with a better set of remedies, than may be obtained from pharmacy, are, however, able to gratify our curiosity, by exhibiting two equally clear transparent liquors, which upon mixture immediately become of some deep colour, as if there were conjuration in the case. In reality, the consideration of colours, is so insignificant and variable, that no certainty can be had from them, with respect to the nature of those bodies wherein they appear: for it does not more necessarily follow, that whatever is of a green colour is acrid, than that all acrid things are green. Upon the whole 'tis apparent, that the violent pain and ejection of green matter, in the *hysteric colic*, proceed entirely from the tumultuary translation of the spirits to the parts (c) beneath the *Scrobiculum cordis*, and their contraction by convulsions.

84. To

(c) The bile, says the acute *Huxham*, does not turn green, unless it be mix'd with an acid, and the stronger the acid, the darker greenness arises, approaching nearly to blackness, and the greater is the coagulation; so that the mixture in colour and consistence nearly resembles ink poured on foot: and this appears more manifest upon making an experiment with human bile, which is perhaps more alkaline, than that of any other animal. This seems to me to be the most common origin of black and green bile; and consequently those persons err, who believe that these kinds of bile are only form'd in the passages, since anatomists frequently find both black and green or *porraceous* bile in the gall-bladder and biliary conduits.

Experience confirms this reasoning, without which the most plausible theory is vain. Thus I have often been astonish'd to see a porraceous and a black bile (which is abundantly more acrimonious than that) thrown up by vomit, which corroded metals, and boil'd up on the ground, like spirit of vitriol dropt thereon; and so austerely acid that it set the teeth strongly on edge, and excoriated the throat. Are not these eminent proofs of acidity? Spirit of vitriol scarce gives greater. I treated a sailor some time ago, who upon his return from *Virginia*, being seiz'd at first with gripings, and afterwards with violent convulsions

84. To the irregular motion of the spirits the *clavus hystericus* is to be ascrib'd, in which all the spirits are collected in a certain point of the *pericranium*, occasioning such a kind of pain, as if a nail were driven into the head, and attended with a copious discharge of green matter by vomit. And this contraction of all the spirits, into a kind of point, differs little from the collection of the rays of the sun by a means of a burning-glass;

The CLA-
VUS HYS-
TERICUS
caus'd by
the irregu-
lar motion
of the spi-
rits.

vulsions and a delirium, vomited a large quantity of deep green, and sometimes a very black and acid bile. The attendants having introduced a silver spoon into his mouth, during his convulsions, that he might not bite his tongue, it in a moment turn'd as black, as if it had been stain'd with spirit of nitre. By the way, it must be observed, that this man being a great lover of juice of lemons, drank it copiously, in most of his liquors. And I must likewise add that, I have found such persons afflicted with a black, or porraceous bile, who had frequently laboured under a disorder in the stomach, occasioned by a corroding, and very pungent acid. I remember about fifteen years since that having ordered a young gentleman to be blooded, who was a great lover of acids and cyder, and on this account frequently seized with colic and rheumatic pains, I was amaz'd to find the serum as green, as the juice of leeks. See our second observation in the *phil-transactions*. No. 382.

I am indeed well aware that the excellent Sydenham holds, that porraceous or green bile proceeds solely from the irregular motion of the spirits: but if this were true, such bile would be generated upon every extraordinary commotion of mind, or vehement agitation of the spirits, which however seldom happens. The passions of the mind do indeed agitate and force out the bile into the *viscera*, where, if it meets with an acid humour, it turns green, in which state it is often vomited up, in great commotions of mind. But the same person who from a vehement commotion of mind now vomits green bile, will perhaps soon after, from a more violent disturbance, vomit an entirely yellow bile. And thus a person at sea throws up a very green bile one day, who, nevertheless, the next day may eject a yellow one, and *vice versa*. The bile when out of the body, does not turn green with violent shaking, and therefore scarce turns green in the body without the admixture of an acid. I speak my thoughts. A vehement agitation of the spirits, or immoderate passion of the mind chiefly hurts digestion, so that the chyle turns sour in the stomach, and gives a greenness to the bile, which flows into this bowel, and is mix'd therewith: and as long as the stomach continues weak, the food taken in is ill digested, whence both it and the intestines may be overcharged with an acid phlegm for a considerable time. See *Huxham de morb. col. damnon.* p. 19, 20, 21, 22.

That human bile, and the bile of animals turns green and afterwards black, by mixing and digesting it with acids, is verified from some experiments of *Baglivi*, which tend to confirm what has been advanced above. See *Baglivi. op.* p. 436, & seq.

glass; for as these burn by their united force, so those for the same reason cause pain, by tearing the membranes with united violence.

Also the
copious dis-
charge of
limpid
urine.

85. And from the same inordinate motion of the spirits which disturbs the mixture of the blood, arises the voiding of a *copious limpid urine*; which is a frequent symptom in hysteric and hypochondriac disorders; for, when the due circulation of the blood is often disturbed, the *serum* is hurried to the urinary passages before it has remained long enough in the body, to be impregnated with those saline particles that render it of a straw colour. (d) We have frequent instances of this, in those who drink too freely, especially of thin and attenuating liquors, whose urine immediately becomes transparent thereupon: in which case the blood being oppressed by the proportion of *serum*, which it cannot retain, discharges it quite clear, and not yet coloured by the juices, by reason of its too short stay in the body.

Illustrated
by a case.

86. Three years since a nobleman sent for me, who seemed to be afflicted with an *hypochondriac colic*, differing little from an *iliac passion*, attended with pain and immoderate vomiting, which he had severely and long laboured under, so that he was in a manner worn out. During the whole course of the disease, whenever he was worst, I observed that he always voided limpid colourless urine, but upon the abatement of the disorder, it inclined to its natural straw colour. Visiting him one day, I found his urine, that was made at three several times, and kept apart, of a straw colour, and he was very chearful, had a craving appetite, and thought of eating something of easy digestion; but some person coming in at that instant, and putting him into a violent passion, he immediately thereupon made a very large quantity of limpid urine.

The sputa-
tion in hy-
stERIC sub-
jects from
the same
cause.

87. Possibly the *sputation* which is so common a symptom in hysteric subjects, arises from the spirits, disturbing the mixture of the blood: they spit a thin *saliva* for

(d) This symptom should rather seem to proceed from certain spasmodic constrictions of the vessels, and a tendency of the *Serum* to the urinary passages, accompanied perhaps with a dissolution, or imperfect mixture of the constituent parts of the blood, or a poor and watery state thereof.

for many weeks, as if it were produced by a *mercurial unction*; for, during this alteration of the blood, which renders it unfit to perform the excretions in the natural way, the *serum* accidentally taking this contrary course, is not discharged by the kidneys according to the laws of nature, but derived to the glands from the extremities of the arteries, and empties it self by the salival ducts in the form of *saliva*. The same may be said of those profuse night sweats, which sometimes seize hysteric women, and proceed only from the ill state of the *serum* of the blood, which disposes it to be thrown on the habit, from the irregular motion of the blood just mentioned.

88. It is manifest also that the *coldness* of the external parts which often happens in hysteric disorders, arises from the spirits forsaking their station, and crowding too much to some particular part; and doubtless both the *crying* and *laughing* fits, which frequently affect hysteric women without any provocation, are caused by the violent action of the animal spirits, upon the organs which perform these animal functions.

And the coldness of the outward parts,

89. And by the way, I must observe that men are sometimes subject to such *crying fits*, tho' rarely. I was called not long since to an ingenious gentleman, who had recovered of a fever only a few days before; he employed another physician who had blooded and purged him thrice, and forbid him the use of flesh.

Men sometimes subject to fits of weeping exemplified in a case likewise.

When I came, and found him up and heard him talk sensibly on some subjects, I ask'd why I was sent for; to which one of his friends replied, that if I would make a short stay I should be satisfied by the circumstances. Accordingly, sitting down and entering into discourse with the patient, I immediately perceived that his under lip was thrust outward, and in frequent motion (as it happens to fretful children, who pout before they cry) which was succeeded by the most violent fit of crying I had ever seen, attended with deep and almost convulsive sighs; but it soon went off. I conceived that this disorder proceeded from an irregular motion of the spirits, occasioned in part by the long continuance of the disease, and partly by the evacuations that were required in order to the cure; partly also by inanition and the abstinence from flesh; which the physician had ordered to be continued for some days

days after his recovery, to prevent a relapse. I maintained that he was in no danger of a fever, and that his disorder proceeded wholly from inanition; and therefore ordered him a roast chicken for dinner, and advised him to drink wine moderately at meals; which being complied with, and he continuing to eat flesh sparingly, his disorder left him.

The other symptoms of the hysteric disease, caus'd likewise by the irregular motion of the spirits.

90. To conclude (not to mention the other concomitant symptoms of this disease) the disturbance and variable indisposition of body and mind, which prevail in *hysteric* and *hypochondriac* subjects, arise from the same *inordinate motion of the spirits*: for such persons not having that firmness of spirits which the robust, and those who never want vigorous spirits, always possess, cannot bear misfortunes, but being moved by passion or sudden pain, are as much affected as those whose minds are originally weak, or rendered so by numerous disorders, or their long duration. For the strength and steadiness of the mind, during its union with the body, chiefly depends on the firmness of the spirits which are subservient thereto, (e) and are in reality composed of the finest particles of matter, and border upon immaterial, or spiritual beings. And as the frame of the mind, if I may use the expression, is much more curious and artful than the structure of the body; as consisting in an harmony of the most excellent and almost divine faculties; so consequently if any disorder arises herein, the evil must be so much the greater, the more excellent, and delicate the workmanship was, whilst it remained entire. And this indeed is the case of those miserable dejected persons we have described, which the positive command of the proudest *Stoic* would not sooner relieve, than the tooth-ach would be prevented by a firm resolution

(e) 'Tis not easy to comprehend what is meant here by *the firmness of the spirits*, it being a property that ill agrees with their extreme subtilty and volatility; to which may be added that the idea we have of them is by no means clear and satisfactory, insomuch that some eminent men have denied their existence. The strength and steadiness of the mind, to use our author's phrase, should seem to depend principally on the structure of the solids, which being sufficiently elastic and open, the operations of the mind, in which consists its strength, will be performed with vigour and alertness.

olution not to suffer the teeth to be seized with pain.

91. I conceive now that it is sufficiently manifest that all the kinds of this disease are to be ascrib'd to a disorder of the animal spirits; and not to the ascent of malignant *effluvia* from corrupted *semen*, or *menstruous blood*, to the parts affected, as some authors have asserted; or as others affirm, to a latent depravity of the juices, or a collection of acrid humours. For, that the cause of this disease does not lie conceal'd in any morbid matter, appears evident from this single instance. If a slender weak woman, otherwise usually healthy, happens by mistake to be debilitated and exhausted by a strong vomit or purgative, she will infallibly be seized with some one of the concomitant symptoms of this disease; which would rather have been carried off than occasioned thereby, if the cause thereof had been contained in an humour. The same may be said of too great a loss of blood, whether it be taken away by bleeding, flow immoderately after delivery, or be diminished by inanition and too long abstinence from flesh; all which would rather be preventive than productive of hysteric diseases, if the cause thereof were included in some kind of matter; whereas, on the contrary they are never more certainly occasioned than by these evacuations.

And not by malignant effluvia from corrupted Semen or menstruous blood, &c.

92. But tho' it abundantly appears that the original cause of this disease is not seated in the *fluids*; it must nevertheless be owned, which indeed is fact, that the irregular motion of the spirits, whence it proceeds, generates putrid humours in the body; because the function both of those parts which suffer from the violent action of the spirits upon them, and those which are deprived thereof, are quite destroyed. And most of these being a kind of *separatory organs* or strainers, designed for the reception of the excrementitious parts of the blood; it follows that if their functions be any way injured, abundance of impurities, must needs be collected in the body, which had been expelled, and consequently the whole mass of blood rendered more pure, provided every organ had done its office, which would not have been wanting, if each had received its proper supply of spirits. To this cause I ascribe remarkable *cachexies*, *loss of appetite*, and the *green-sickness* in young women, (which latter

The original cause thereof not in the fluids tho' it corrupts them in time.

*Instanced in
a dropfy of
the womb.*

latter is doubtless a species of hysteric disorders) and all the evils which trouble those who have been long afflicted with this disease; for all these proceed from corrupt juices collected in the blood, and derived thence to various organs. Of this kind is a *dropfy of the womb* in women who have long laboured under hysteric disorders, proceeding from a translation of vitiated juices from the blood to these organs; which impairs their functions, whence they first become sterile, and the tone of the parts is quite destroyed; and afterwards *sanies* and *serum* are generated, which not only distend the *ovaries* and *ova* considerably, but insinuating themselves into the interstices of the teguments, swell them, as appears upon dissecting the bodies of such as perish by this disease. In the mean time the hysteric disposition is the primary cause of these and other similar humours, tho' they are in themselves foreign to it.

*And a
quartan.*

93. In the same manner in a *quartan*, wherewith a person in perfect health may be seized, by residing two or three days in moist and marshy places; first a certain spirituous *miasm* of this disease is communicated to the blood, which remaining a considerable time, and the animal œconomy being at length injured, taints all the juices of the body, and quite alters their nature; whence the patient especially if he be in the decline of life, is disposed to cachexies and other disorders, which succeed inveterate intermittents. And yet these intermittents are not to be cured by those remedies which are adapted to purge off such humours, but by such *specifics* as are immediately curative of these disorders.

*The chief
curative
indicati-
on is to
strengthen
the blood.*

*Bleeding
and purg-
ing when
to be pre-
mised.*

94. From what has been advanced, it seems evident to me, that the chief curative indication in this disease, is that which directs the *strengthening the blood*, which is the source and origin of the spirits; this being effected, the invigorated spirits may preserve that order which suits the due order of the whole and every part of the body. But as this disorder of the spirits may by its long duration have vitiated the juices, it will be proper first to lessen their quantity by *bleeding* and *purgings*, if the patient be not too weak, before we proceed to strengthen the blood; which can scarce be done, so long as we are obstructed by abundance of
foul

foul humours lying in the way. But as the pain, vomiting and purging are sometimes so violent, that they cannot safely be neglected, till we have answered the primary intention of strengthening the blood, we are to disregard the cause for a time, and begin the cure by quieting the symptoms, for that purpose exhibiting an opiate; after which we must endeavour to restore the spirits to their due firmness, the weakness whereof is the cause of the disease. And as experience shews that there are many fetid medicines, which are adapted to compose the tumultuary motion of the spirits, and keep them in their proper places, which for this reason are intitled *hysterics*, recourse must be had thereto, whenever such intentions are to be answered.

When an opiate is to be exhibited

Fetid medicines excellent here.

95. With this view, I first bleed in the arm and afterwards give a cathartic for three or four mornings successively. During these evacuations the patient seems to grow rather worse than better; because they increase the disorder by the tumult they raise; which I take care to inform her of at first, that she may not be dejected; it being the nature of this disease to sink the spirits. (f) However, it be, the primary intention cannot be conveniently answered, without carrying off a part of those foul humours, which we suppose to have been collected by the long continuance of the disease.

Whence bleeding and purging increase the disorder.

96. After these evacuations, in order to strengthen the blood and the spirits proceeding therefrom, I prescribe some *chalybeate* medicine to be taken for thirty days; this being as effectual a remedy as can be given in this case: for it impregnates the vapid and languid mass of blood with a certain volatile ferment, whereby the drooping spirits are roused and revived. And this is manifest upon administering steel in the *green-sickness*; for it

Some chalybeate to be taken afterwards for thirty days.

B b

evidently

(f) If this disease proceeds from a weakness of the spirits, and the poorness of the juices, as our author seems to think, bleeding and purging must doubtless be detrimental, inasmuch as they tend rather to encrease the cause, than relieve the complaint. In case of exhaustion and debility, 'tis manifest that neither bleeding nor purging should be used: but if there be a fulness of blood, and the fits be violent, recourse may be had to them with advantage. 'Tis observable that some hysteric women cannot bear the gentlest purgatives, or glysters, but are seiz'd with a lowness of spirits as often as they have only a single loose stool. See the conclusion of par. 96.

Bleeding
and purging
not always
to be us'd
before ex-
hibiting
chaly-
beates.

Steel best
given in
substance.

evidently raises and quickens the pulse, heats the external parts, and changes the pale colour of the face to a florid red. But it must be noted here, that bleeding and purging are not always to be premised to chalybeates; for in case the patient be extremely debilitated and almost worn out by the continuance of the disease they may and ought to be omitted, and we are to begin with steel. This is a caution well worth observing.

97. Steel, in my opinion, is best given in substance; and as I have never found or heard that it injured any one, who us'd it in this manner, so, much experience hath convinced me that it cures with more expedition and certainty than any of the common preparations thereof (g). For officious chemists rather lessen than improve the virtues of this and other excellent medicines, by their method of preparing them. I have likewise been informed, (which, if it be true, will much strengthen our assertion) that the crude ore is more efficacious in curing diseases, than iron which has been refined by fusion; but for the truth of this I have only the author's word, not being certify'd of it from my own experience. This, however, I certainly know, that all the best remedies hitherto discover'd, owe their principal virtues to nature; for which reason grateful antiquity termed them the workmanship of the supreme being and not of man. But that an admirable medicine may be productive of surprizing effects, by its native goodness and efficacy in whatever form it be taken, we instance in the bark and opium: nor does the skill of a physician appear so manifest in preparing, as in chusing and adapting those remedies which nature hath prepared with her own fire, and abundantly supplies. All we have to do, therefore, is to reduce medicines to such a form, that their substance, or virtues may be more effectually communicated to the body, which we are sufficiently able to perform. Next to steel in substance, I prefer the syrup thereof which is prepared by infusing si-
lings

(g) Of this sentiment is *Baglivi*, *Hoffman*, and many other great men. The operation of steel medicines may be promoted, and they may be prevented from proving mischievous by using warm bathing between whiles; whereby the offending humours are the better prepared for dislodgement and exclusion. See new experiments, &c. upon mineral waters, Translated by Dr. Shaw. p. 195.

lings of steel or iron in *rhenish* wine without fire, till it be sufficiently impregnated therewith; and afterwards straining it off, and with a sufficient quantity of sugar boiling it to the consistence of a syrup. (*h*)

98. I do not interpose cathartics at set times during a course of chalybeates, because they seem to destroy the effects of steel, both in hysteric and hypochondriac disorders. For when I chiefly propose to quiet the spirits, and restore and strengthen their frame, the gentlest purgative does, in one day, undo all that I had been able to perform by the use of steel for a week before; and thus by destroying the effects of the medicine, and exhibiting it afresh, I trifle with my self and patient both. And doubtless this practice of purging between times, which obtains in the use of the *chalybeate* waters, renders them less efficacious. I am well aware, however, that some persons have been cured, not only tho' purgatives have been interposed, but notwithstanding they have been given daily along with steel; but the success here is rather to be ascrib'd to the remarkable virtue of the steel, than to the skill of the physician: for if purgatives had been omitted the cure would have been sooner completed. (*i*)

*Purgatives
why not to
be given
during a
course of
chalybeates
in this dis-
ease.*

B b 2

99. Moreover,

(*h*) Dr. Quincy in his dispensatory, under the article of syrup of steel, justly observes that the Syrup prepared in this manner is very apt to candy, because the more spirituous any menstruum is, the less it is suited to dissolve and suspend sugar: but he has not shewn a better method of making it, whether it be that he knew none, or thought the medicine not worth his notice. It cannot indeed be taken in a sufficient quantity to do great service, by reason of the sugar which helps to clog it, and render it disagreeable to some palates, and too heavy for some stomachs. However as it may be an assistant occasionally in prescription we shall give the manner of making it to the best advantage, as 'tis delivered by Fuller in his *pharmacopœia domestica*, or family dispensatory.

Take of the true salt of steel, reduced to powder, one ounce; dissolve it in thirty two ounces of clear water, and set it by till the yellow fæces be fallen to the bottom; then pour off the clear liquor carefully, and dissolve therein, without boiling, two ounces of gum arabic, and thirty two ounces of fine sugar.

(*i*) Our author is doubtless in the right in condemning purgatives in general, during a course of steel-waters, but such cases may happen as may require purging to be interposed between times, so that this is to be understood with due limitation. To promote the operation of them, and prevent them from having any ill effect, it will be convenient to ride on horseback, or use some other proper exercise at suitable times. Correctives or additional alterative remedies of different kinds, suited to the case, may frequently be used with advantage as assistants in the cure.

*Mischief of
frequent
purging in
other dis-
eases like-
wise.*

99. Moreover, I cannot conceive what benefit accrue from so frequent a repetition of cathartics several other diseases besides that under consideration for tho' it must be own'd that they clear the intestines of foul matters, and sometimes also in some measure expell ill humours contained in the blood: yet, the contrary, it is as certain, that a frequent repetition of them in weak persons, especially if they be young, proves very detrimental; because a large quantity of humours is thereby carried to the intestines, where they occasion preternatural fermentations, whence swellings arise in the lower belly, which increase daily in proportion to the frequency of purging, and at length these parts, thro' their weakness and a defect of natural heat (being in a manner oppress'd with a load of humours) readily waste and putrify. And sometimes also the functions of the *viscera*, being destroyed by the causes just mentioned, hard tumours, resembling the kidneys, and swellings of this kind arise in the mesentery, at length occasion death. For these reasons, I judge it best in children, after a few general evacuations, to endeavour to strengthen the blood and *viscera*; which may be effected by canary alone, or by infusing strengthening liquors therein; provided a few spoonfuls of it be given morning and night, in proportion to the age of the patient, and the use of it continued for a sufficient space of time. But as external medicines easily penetrate the tender bodies of children, and consequently communicate all their virtue to the blood, whatever it is proper in swellings of the *abdomen*, when they proceed from scrophulous disorders, or the rickety, to have recourse to liniments, that strengthen the blood and *viscera*, and remove the morbid taint wherewith they are affected.

*A strengthening
liniment.*

Take of the leaves of common Wormwood, the lesser tory, white hore-bound, germander, groundscordium, common calamint, feverfew, meadow saxifrage, St. John's Wort, wild thyme, golden mint, sage, rue, carduus benedictus, penny southernwood, camomile, tansy, lilly of the Valley all fresh gathered and cut, of each one handful; lard, four pounds; sheeps-suit, two pounds; cast a quart; infuse them together in an earthen vessel on hot ashes for sixteen hours; then boil them

the aqueous moisture is exhaled, and press out the ointment. Let the abdomen, hypochondria, and armpits be anointed therewith morning and night, for thirty or forty days running.

100. But it must be further observed with respect to the rickets, that in such swellings as formerly affected the abdomen in children, after inveterate intermittents, and resembled the true rickets, repeated purging seem'd to be indicated; for before the use of the bark intermittents continued a long time and deposited a sediment, which occasions such swellings, and hence they could only be removed by frequent purging. But in the genuine rickets purging must not be repeated more than once or twice at most, before beginning a course of alteratives: and whilst the parts affected are anointed let the wine abovementioned be taken, or, if it can be done, let the child use beer for his common drink, wherein a sufficient quantity of all, or part the aforementioned herbs are suffered to stand in infusion. Lastly, this observation deserves to be carefully noted, because I am well assured that many children have been destroyed by the frequent repetition of cathartics, which perhaps the swelling of the belly seem'd to demand. (k) But this by way of digression.

Repeated purging requisite in swellings of the abdomen in children, after inveterate intermittents

But not in the genuine rickets.

Bb 3

101. If

(k) The rickets is only an unequal distribution of the nutritious juices, whence some parts wear away for want of due nourishment, and others increase in bulk from being supplied too copiously therewith, and a distortion of the spine, and a considerable incurvation of the bones are likewise occasioned.

It is a new distemper, and appeared not in our own nation till towards the middle of the last century; but afterwards spread throughout the rest of Europe. It discovers itself chiefly by the following signs.

It appears first in the ninth month of the child's age, or later, and by degrees several parts of the body become disproportioned, the skin grows lax, and the abdomen flaccid, the muscles wear away, the joints of the hands, arms, knees, and feet grow large, the bones too weak to support the body, and frequently crooked, along with the spine; whence the child walks with difficulty, and often looses the use of his feet entirely. And now the jugular arteries and carotids swell, the head grows large and cannot be held still by reason of the flaccidness of the neck which supports it. The child is more sensible than children ordinarily are at that age, the thorax is strait, the sternum rises in a point, and the extremities of the ribs are knotty. At length, the disease increasing, it is accompanied with

An objection
on to the fi-
lings of steel
answered.

101. If it be objected that the filings of steel r
stick to the bowels and do mischief, unless cathar
be exhibited at proper intervals. I answer, first, tha
nee

with a slow fever, a cough, difficult respiration, and o
symptoms which continue during life. It should however
carefully remember'd that there are different species of
ricketts, and that it lasts longer, or goes off sooner, not
ducing the same symptoms in all subjects, but afflicting f
more, and others less severely.

Upon dissecting the bodies of such as have died of this dise
the liver in some has been found to be larger than it i
its natural state, and also scirrhus, and adhering to the
phragm, the glands of the mesentery indurated, and the *pan*
obstructed: in others, the lungs have been found sticking to
pleura, and back, and either livid, or much impostuma
and in others the *pericardium* has been found full of w
But several curious anatomists, as *Glisson*, and *Bonetus*,
Heister, amongst the moderns, almost unanimously affirm tha
top of the spinal marrow is uncommonly hard and obstru
the cavity between the *dura* and *pia mater* full of water
brain large, and the carotids and jugular veins less than the art

The proximate cause of this disease should seem to c
in a stoppage of the free influx of the nervous juice into
spinal marrow, from the compression or obstruction of
part, whence all those parts which receive nerves there
cannot be supplied with nourishment, and those on the
trary, which have their vessels open, and admit a suffi
quantity of nutritious juice, receive too much. This anal
shews that the head of a ricketty child receives
nourishment, because the nutritious lymph cannot enter
spinal marrow and therefore not only increases in bulk, bu
cations the face to be fresh-coloured and florid.

The bones come to be incurvated, and deformed with kn
excrecencies about their *epiphyses*, because the muscles and ligam
which join them together are unequally nourished, the ali
being conveyed in greater plenty thro' the arteries to the
themselves; whence their extremities, which are generally
soft, or cartilaginous and yielding texture in children, are
tended from the small resistance they make, and become kn
And when the aliment continues to be so irregularly applied
bones increase continually in bulk, and the muscles, on
contrary, wear away and grow shorter, whence their ex
sion is obstructed by the connecting muscles, and they
bow'd or crooked, and the more so, by reason of their
ness and flexibility at this age.

The distortion of the spine is occasioned solely by the la
and weak tone of the bony processes, cartilages, ligaments,
muscles, which join the bones together; whence these parts l
incurvated situation separate so much from each other respect
and are so much distended, that they cannot come togeth
again, and be restored to their original state.

The mediate cause of this disease is the thickness, or
dity of the juices, which being separated from a viscid b
and carried to the spinal marrow, compress, or block up its
duits, or pores, and thus prevent the free influx of the

never observed this ill effect in any of my patients; and besides 'tis more probable that the steel being enveloped in the *mucus* and excrementitious humours of those

B b 4

parts,

tile nervous fluid into this part, and its further distribution from hence thro' the nerves.

The remote causes are whatever hinders digestion, and generates a thick viscid chyle, altogether unfit for nutrition.

But the air which surrounds the bodies of children is principally productive of this distemper, being cold, cloudy and full of heterogeneous exhalations, which, partly by debilitating the tone of the skin, retains the phlegmatic matters in the habit, and partly by relaxing the lungs, prevents the intimate mixture of the blood therein, and its regular distribution throughout the body likewise. We have a manifest proof of this from the air of *London*, which appears to be well adapted to occasion and feed this disease, both from the exhalations it receives from the circumfluent ocean, and certain mineral particles exhaled from the pit-coal, which is burnt there in great plenty. It ought not therefore to seem strange, that this distemper, from the same cause is common in marshy and maritime places, and likewise in spring and autumn, and that there are such numbers of ricketty children at *Halle* in *Saxony*, where the atmosphere is very moist, from the saline exhalations, and the smoak of pit-coal.

Moreover I scruple not to assert, that the ill custom which some women have of carrying their children often in their arms, contributes to the stagnation of the fluids in the spinal marrow, and not only keeps the spine in an incurvated situation a long time, but also bends the feet unequally, so that they grow crooked and gibbous, and this distemper is occasioned. The spine may be distorted also by falls, or blows.

Doubtless preceding diseases likewise dispose children to the rickets, especially those which cause a stagnation of the fluids in the spinal marrow, and consequently hinder the free course of the nervous juice.

If this distemper lasts longer than the fifth year of the child's age, it proves difficult of cure, and generally renders the body weak and deformed for some years after, and unless it be remov'd in the patient's youthful age, when the whole body undergoes a considerable alteration, the case is adjudg'd absolutely incurable. And it is equally difficult of cure, when it is hereditary, or comes on a few months after the birth of the child. And lastly, the case is dangerous, if a consumption, join'd with a hectic fever, a dropsical swelling, an asthma, or a looseness succeed. But when the rickets proceed from some bad quality of the air, or improper diet, or is succeeded by the small-pox, itch or other cutaneous eruptions, and is not accompanied with a considerable incurvation of the bones, and inability to motion, it is easy of cure.

The curative indications are to dissolve the viscosity of the juices, open the obstructions, and promote a free circulation of the fluids throughout the whole body. And we are to begin with cleansing the first passages in order to carry off what feeds the disease, for which purpose gentle laxatives are servicable, and emetics, (if requir'd, and the constitution can bear them)

inasmuch

parts, will at length be evacuated therewith, than when they are agitated by purgatives, which occasion unusual costiveness, gripings and contractions of the intestines, whence the particles of the steel which adhere to their coats, may be more thoroughly fix'd therein.

Hysteric medicines to be join'd with chalybeates.

102. During a course of chalybeates, in order to strengthen the blood and animal spirits, hysteric medicines are to be administered in such manner and form, as

inasmuch as these kinds of remedies admirably evacuate the viscid impurities collected in the stomach and intestines, and by their stimulating property dissolve the viscid humours, and open the obstructed vessels. But these medicines must not be given to those who are very much exhausted, have unsound viscera, or the mesentery extremely obstructed; aperient and saponaceous medicines, especially neutral salts being highly efficacious and preferable in this case. Gentle resolvents may likewise be exhibited between whites, and are better than mercurials here.

In order to open the obstructions of the spinal marrow, and procure an uninterrupted circulation of the nervous fluid; frictions with warm cloths upon the spine, arms, legs and feet, and fumes of frankincense, amber, mastich, and olibanum, &c. are commended by several authors. But I have learnt from experience that many have been wonderfully reliev'd, and at length cured by bathing frequently in a bath prepared with nervous herbs, as marjoram, lavender, wild-thyme, rosemary, camomile, balm, &c. boil'd in soft-water; and afterwards anointing the spine, and limbs, with a nervous liniment, such, for instance, as the following.

Take of human fat and oil of mace, of each half an ounce; balsam of peru, one dram; the chemical oils of cloves, lavender and rue, each thirty drops; mix them well together.

Great care should be had to join a suitable regimen with the process us'd for the cure, which consists in keeping the child from all flatulent, viscid, and difficultly digestible aliment, giving him frequently small chicken and veal broth, wherein opening roots and craw-fish have been boiled. His drink should be thin liquors, and whilst he sucks, good thin milk, not neglecting proper exercise at the same time. In case of costiveness a gentle laxative, or a glyster may be given. But if the disease be occasioned, or fed by some disorder of the nurse, the same medicines should be administer'd to her, which we have advis'd in a less dose for children.

To conclude: the application of suitable bandages and bolsters to the incurvated spine, and differently distorted limbs is adviseable provided care be had not to do mischief instead of Service, and bring on a worse disease than that we intend to cure. See Hoff. op. tom. III. pag. 487 & seq. See also Dr. Shaw's new practice of physic p. 554 & seq. where the reader will meet with a concise history of this disease, and the best methods of cure. — See also sect. I. chap. V. and par. 49, 50, 51. of our authors works.

as are most agreeable to the patient ; tho' if they can be taken in a *solid* form, they will more effectually keep the spirits in their function and place, than in a *liquid* one, *viz.* in decoction, or infusion ; for the substance itself affects the stomach longer with its taste, and communicates its Virtue more intimately to the body.

103. Upon the whole : in order to answer all the indications above enumerated, I usually direct the following few common and simple remedies with success. Let eight ounces of blood be taken from the right arm. *The process described.*

Take of galbanum, dissolv'd in tincture of castor, and strain'd, three drams ; tacamahac, two drams ; mix them together, for a plaister to be applied to the navel. Next morning let the patient begin the following pills. *A fetid plaister.*

Take the greater pil. cochiae, two scruples ; castor powder'd, two grains ; balsam of Peru, four drops ; make them into four pills to be taken at five in the morning, sleeping after them. Let them be repeated two or three times, either every morning, or every other morning, according to their operation, or the strength of the patient. *Purging pills.*

Take of the distilled waters of black cherries, rue and briony, each three ounces ; castor, tied up in a piece of linnen, and suspended in the vial, half a dram ; fine sugar, enough to sweeten the whole ; mix them for a julap ; of which let four or five spoonfuls be taken when the patient is faint, or low-spirited, dropping into the first dose, if the fit be violent, twenty drops of spirit of hartshorn. *An hysteric julap.*

104. After having taken the purging pills, as above directed, let the patient proceed to the use of the following remedies.

Take of the filings of iron, eight grains ; extract of wormwood, enough to make it into two pills ; taken early in the morning, and at five in the afternoon, for the space of thirty days, drinking after each dose a draught of wormwood wine. *Opening pills.*

Or

Or, for daily use,

Take of the filings of iron, and extract of wormwood, each four ounces; mix them together; let sixteen grains, or a scruple of this mass, be made into three pills, and taken at the times above-mentioned.

Or, if a bolus be more agreeable,

*An opening
electuary to
be divided
into bolusses.*

Take of the conserve of roman wormwood, and orange-peel, each an ounce, candied angelica and nutmeg, and Venice treacle, each half an ounce; candied ginger, two drams; syrup of orange-peel, enough to make the whole into an electuary. -- Take of this electuary, a dram and half; the filings of iron, finely pulverized, eight grains; syrup of orange-peel, enough to make them into a bolus, to be taken every morning, and at five in the afternoon, with a draught of wormwood wine after it.

*Petrid hys-
teric pills.*

Take of the finest myrrh and galbanum, each a dram and half; castor, fifteen grains; balsam of Peru, enough to make them into a mass; of every dram of which let twelve pills be formed; three whereof must be taken every night during this process, with three or four spoonfuls of compound briany water after them.

But if these pills should loosen the belly, as they sometimes do, in such as are easily purged, on account of the gums they contain; let the following be substituted in their stead.

*Volatile hy-
stERIC pills.*

Take of castor, a dram; volatile salt of amber, half a dram; extract of rue, enough to make them into twenty four pills; three of which are to be taken every night.

*A Distur-
bance cau-
sed by cha-
lybeates,
how to be
remedied.*

105. But it must be noted here, that chalybeates, in whatever form or dose they are exhibited, do sometimes occasion great disorders in the sex both of body and mind, not only in the beginning, which happens to most persons who take them, but during the whole time of their continuance. Now in this case, the course is not immediately to be interrupted, but that the patient may bear them the better, a proper dose of laudanum must be given every night for some time, in any hysteric water.

106. But

106. But when the disease is gentle, and does not seem to require the use of steel, I judge it sufficient to bleed once, and purge three or four times, and then to exhibit the alterative hysteric pills, above describ'd every morning and night, for ten days. This method seldom fails of curing, when the distemper is not severe; and the pills alone often do great service, without bleeding or purging.

How to proceed when steel is not required.

107. It is however carefully to be noted, that some women by reason of a certain peculiarity of constitution, have so great an aversion to hysteric medicines, which are so generally serviceable in this disease, that instead of being reliev'd, they are injured thereby. In such therefore, they are to be wholly omitted: for, as *Hippocrates* observes, it is fruitless to oppose the tendency of nature, and in reality this *idiosyncrasy*, or antipathy is so remarkable and so common, that unless regard be had to it, the life of the patient may be endangered, and this not only from the hysteric medicines, but from several others, in confirmation whereof, I will at present produce only a single instance. Thus, some women in the *small-pox*, cannot bear *diacodium*, because it occasions giddiness, vomiting, and other hysteric symptoms, whilst *liquid laudanum* agrees with them very well. I experienc'd this, whilst I was writing this epistle, in a young lady in the *small-pox*, to whom I had given *diacodium* on the sixth and seventh night, and she was seized on both nights with the above-mentioned symptoms, and the inflammation of the pustules did not go on regularly; but afterwards upon using *laudanum*, she was freed from these symptoms, and the swelling of the face increas'd, the pustules fill'd every day, and the restlessness and anxiety (which made a kind of fit of the *small-pox*) were wholly removed every time this opiate was exhibited; the patient being strengthened and revived thereby. --- This by way of digression.

Hysteric medicines do not suit all constitutions.

108. And in this manner hysteric diseases and most kinds of obstructions, but especially the green-sickness, and all suppressions of the *menfes*, are generally cured. But if the blood be so weak, and the irregular motion of the spirits so considerable, that the disorder will not yield to a course of chalybeates as above directed; the patient must drink some *steel water*, such as that of *Tunbridge*, or some others lately discovered. For the chalybeate virtue of these waters is more intimately communicated to the

If steel fails of curing, the chalybeate waters are to be drank.

the blood on account of the large quantity that is drank, and also of their agreeableness to nature, and proves more effectual in curing diseases, than the choicest preparations of iron, however magnified by chemists.

A caution to be observed in drinking them.

109. But this caution must particularly be observed in drinking them; *viz.* that if any disorder happens which may be referred to hysteric symptoms, they are to be omitted for a day or two, till that symptom goes off, which would otherwise hinder the water from passing off freely. For tho' these waters are not so apt to move the humours, and cause a disorder of the spirits, as the gentlest officinal cathartics, yet they in some measure move the humours, inasmuch as they are diuretic, and, besides, they frequently purge. But if the waters themselves obstruct their own passage, by disturbing the humours and spirits, it must needs be highly improper to order cathartics to be taken once or twice a week during a course of them; and still more absurd to mix purgatives therewith; which occasion both these and other *mineral* waters to pass more slowly and difficultly.

Their nature explained.

110. I must here acquaint you, that tho' some are of opinion, that these waters contain a solution of the *principles* or *elements* of *iron*, which is the same thing as supposing *liquid iron*; yet, I doubt not that they are only simple elements, impregnated with the *ore*, or *mineral*, which they lick up in their passage thro' the *mine*. And this may be made manifest, by pouring some gallons of water upon a sufficient quantity of rusty nails, letting them stand some time together in infusion; and afterwards adding to a small quantity thereof, a little powder of galls, a few leaves of green tea, or something of the like kind; for thus it will be tinged in the same manner, as mineral waters are by such admixtures (1). Moreover, these natural, or artificial waters (which name soever you give them) being drank in the summer time, and in a healthful air, are productive of the same effects.

III. But,

(1) 'Tis certain, says *Hoffman*, and abundantly confirmed by *chemical experiments*, that no *metals* are soluble, or can possibly enter the composition of *waters*, unless the metal be first dissolved, or turned to a *salt* or *vitriol*. — Of all the *metals* there is none that dissolves so readily in all kinds of acids as *iron*. And thus, pure water itself, on account of the *atherial principle* and the
universal

III. But however this be, if the disorder proves so inveterate, as not to yield to the steel waters; the patient must be sent to drink some hot sulphureous waters; as those of *Bath*; and after having drank them for three mornings successively, she must bath in them the fourth, and the

If the chalybeate waters fail, the sulphureous kind is to be tried.

universal salt it lodges, will soon prey upon, and dissolve this metal. So that if a piece of red hot iron be quenched in common water it communicates some particles of itself thereto; as appears by the strengthening, binding, rough and styptic taste of the water thus heated. And as 'tis a familiar observation, that the moisture of the air, rain, &c. corrodes iron, turns it into rust, and impregnates itself therewith; there is no question but that all springs, which wash the beds of iron ore, or take their course thro' red, clay grounds, lick up in their passage, particles of an iron nature; and come impregnated with them to the spring-head. And accordingly the waters of such springs, all over Europe, are called by the name of *chalybeate, steel, or iron-waters*.

The external signs of these *chalybeate waters* are derivable from the astringent styptic taste, which they in some degree impress upon the tongue; and the yellow kind of *oker* wherewith the canals or conduits they pass thro' are lin'd; as also the basins and reservoirs that contain them; and the parts about the spring-head, where they overflow, or are spilt. For if this kind of *oker*, or rubiginous matter, be collected, washed, dried, and thoroughly roasted over a strong fire; it not only appears of an iron nature, by readily answering to the load-stone; but affords a no less certain chemical mark of its being iron, by subliming with *salammoniac*, into flowers, that afford a most bright and perfect tincture of iron. Other concurring marks of their *chalybeate nature* are likewise afforded by the purple colour, or inky blackness they make with powdered galls, the yellow colour wherewith they stain an egg put into the spring, and the iron-mould they cause on linnen: which are all certain characteristics of a fine iron rust, or the real and material existence of iron in the waters. — The conclusion upon the whole is, that these kind of waters really contain somewhat of an iron nature; which being joined with a sulphureous spirit, resembles common vitriol only, in the taste and the colour it gives, without any farther approaching to the nature thereof. See this author's new exper. on. min. waters, translated by Dr Shaw, p. 44, 47, 41, 49, and 106.

That mineral waters are imitable by art is a fact too well established to be contested; however it may not be amiss to observe that our Author is rather too hasty in advancing, that an infusion of rusty iron in common water will be tinged in the same manner as the *chalybeate waters* are, by adding thereto a small quantity of galls in powder, or something of a like kind; as will evidently appear upon repeating the experiment with both with proper caution and exactness; the artificial mineral waters, not striking so deep a colour as the natural ones do, and differing likewise considerably in some other known properties, as levity, purity, subtility, spirituousness, &c. Hence the former should seem a priori to differ greatly from the latter, and consequently cannot produce the same effects in drinking. And in reality it seems not likely that

the following day drink them again; and continue this course of drinking and bathing alternately for two months. For in the use of these and all kinds of mineral waters, it is to be carefully noted, that the course must be continued, not only till the patient finds some relief, but till she perfectly recovers, so as to be in no danger of a sudden relapse (*m*).

VENICE
treacle ex-
cellent in
this and
many other
diseases.

112. **VENICE** *treacle* alone, provided it be frequently used, and continued for a sufficient time, is an excellent remedy in this disease, and likewise in many others proceeding from a want of heat and digestion: it is perhaps the most effectual medicine hitherto known, how much soever 'tis contemn'd by most persons, because 'tis common and of ancient date.

Bitters very
good in some
constituti-
ons.

113. If the patient be not of a slender and bilious habit of body, an infusion of *gentian*, *angelica*, *wormwood*, *centory*, *orange-peel*, and other strengthening simples in *canary*, does great service a few spoonfuls of it being taken thrice a day.

In

that *art* should of a sudden prepare a medicine of this kind equal in excellence and subtilty, to such another which *nature* perhaps, in bringing it to the perfection wherein it is exhibited to us, is employed in a great length of time.

For the ways of imitating *mineral waters* to the best advantage we shall refer the reader to the work last quoted, *page* 197, & *seq*; and to *Dr. Shaw's chem. lectures* p. 89 & *seq*; where he will be abundantly satisfied as to this point.

(*m*) With respect to the drinking mineral waters, great regard must be had to particular circumstances, which are to direct us in the choice of a proper water, and the management of the patients during the course. 'Tis impossible to lay down such general rules relating thereto, as will not be liable to various exceptions; so that in these cases much must be left to the judgment of the physician, who ought to be endowed with no little discernment, to make a suitable application.

Steel-waters, as *Hoffman* observes, are possess'd of an aperitive and strengthening property; so as to be advantageously us'd as well internally as externally. Thus when drank they loosen the belly, but strengthen the body and stomach, provoke the appetite, and may therefore be very safely and serviceably used in such distempers as give way to any preparations of *iron*. Their external use in the way of bath, is very considerable, for strengthening and cherishing benumb'd and motionless limbs; curing pains, contractions, or relaxations; and for drying and healing up old ulcers. And tho' used for this purpose, in the way of bath, made but gently warm; yet they heat the body, open the pores of the skin, and provoke sweat; especially if the patient goes directly from the bath to bed. See *new exper. on min. waters.* p. 85.

In reality, I have advised some hysteric women to *And cana-*
 drink a large draught of *canary* by itself at bed time, for *ry.*
 some nights running, and they have been eminently re-
 liev'd ; the whole body having been much strengthen'd,
 and such as were before cachectic becoming fresh co-
 loured, and brisk thereby.

114. Moreover, the *cortex* is sometimes found to *The bark*
 strengthen the blood and spirits in a wonderful manner ; *a great*
 and I have known several hysteric women and hypo- *strengthen-*
 chondriac men recovered, who were reduced to great *of the blood*
 weakness thro' the long continuance of their respec- *and spirits.*
 tive diseases, by taking a scruple of it every morning
 and night for some weeks. But this remedy, proves
 most effectual in that species of hysteric disorders, which
 is accompanied with violent convulsions ; and wherein
 the patients beat their breasts : It must however be
 owned, that this medicine does not so certainly and
 frequently cure this distemper, as intermittents (*n*).
 But to mention this by the way, tho' the bark is so *Disesteem'd*
 effectual in curing intermittents, and we use it freely *by some.*
 our selves, and administer it to our wives and children
 whenever there is occasion ; yet there are those who
 dislike it as much now, because it cures with such ex-
 pedition and certainty ; as they did formerly, because
 it was but just discovered. And to this fate the best
 men, as well as the best remedies, have generally been
 expos'd ; but by this we try our dispositions as by a
 touch-stone, and hence discover whether we are good
 or bad men ; namely, from the degree of joy, or grief
 we feel, whenever the good of mankind is promoted by
 any common benefit, and the favour of providence.

115. But when any of the remedies above directed *Advan-*
 do not agree with the patient, as it frequently happens *tages of a*
 in thin and bilious habits, recourse may then be had to *milk diet*
 a *milk diet*. For some women, which may seem strange *in thin and*
 at first view, have been cured of long and obstinate *bilious ha-*
 hysteric disorders, which had baffled all the endeavours *bits.*
 of the physicians, by living on milk only for some
 time, and especially of an *hysteric colic*, which can on-
 ly

(*n*) The *bark* cannot be enough commended in this and most
 diseases where the blood is impoverish'd, the spirits low, and the
 tone of the solids considerably debilitated. To make it more ef-
 fectual in this case it may be join'd with hysteric and chalybeate
 medicines.

ly be relieved by *opiates*, and therefore women are accustomed to repeat them at intervals, the pain returning as soon as the effect of the anodyne ceases. But what is most surprizing in this method of cure is that *milk*, which yields only a cold and crude nourishment, should, nevertheless by use, strengthen the spirits; and yet this will not seem at all repugnant to reason, if it be considered that *milk* affording only a simple aliment, does not give nature so much trouble in digesting it, as food and liquors of a more heterogeneous kind do; and that an equal mixture of the blood and spirits necessarily follows this perfect digestion. For it must likewise be observed, that 'tis not the bare weakness of the spirits considered separately, but as compared with the state of the blood, that is the cause of those disorders which afflict such patients: for a child may have sufficiently strong and firm spirits with respect to its blood, which notwithstanding may not be proportionable to the blood of a grown person. Now as the continued use of *milk*, (tho' it be a crude and slender aliment) renders the blood more soft and balsamic; if the spirits thence generated be but adequate thereto, the cure goes on well. But notwithstanding the advantages that might accrue from such a diet, there are some who cannot support the inconveniencies that generally accompany it in the beginning; because it is apt to coagulate in the stomach and does not afford sufficient nourishment to keep up the ordinary strength of body (o).

But it disagrees with some subjects.

116. But

(o) *Milk* is so far from being a crude and slender aliment, that it is in general a very proper and wholesome medicine and diet for weakly, consumptive, and gouty persons, whose digestive faculty is impaired; because it is both easy of digestion, and affords a copious nourishment: but in order to make it effectual for the purposes it is given, it should be drank freely, and the use of it continued for a considerable time.

Breast-milk is the softest and lightest, and best adapted to the nature of the human species: the writers of observations relate some wonderful cures that have been effected by the use thereof. The next in goodness to this is *ass's*, and then *goat's milk*; cow's milk being by most authors rank'd in the last place. the extraordinary virtues of *ass's milk*, and the manner of drinking it to the best advantage, and the cases wherein it is proper are delivered at large, and with great plainness by the judicious *Hoffman* in a dissertation on the subject, entitl'd *de mirabili lactis asinini in medendo usu*, to which therefore we refer the reader for further information in this matter.

116. But the best thing I have hitherto found for strengthening and cheering the spirits, is *riding on horse-back* often, and continuing this practice for a considerable time. For, as this kind of exercise gives a great shock to the lower belly, which is the seat of the excretory vessels, appointed by nature to carry off all the excrementitious parts of the blood; it should seem that every disorder of the functions, or natural weakness of the organs, must be relieved by the often repeated agitation of the body, hereby occasioned in the open air. Neither can any person have the innate heat so extinguished, as not to be rouz'd afresh by this exercise. Nor can there be any præternatural substance, or vitiated juice so intimately lodged in any cavity of these parts, which cannot, by the use thereof, either be reduced to such a state as is agreeable to nature, or dissipated and expelled. And by this motion the blood, being continually agitated and mixed, is purified and strengthened likewise. And in reality, though this exercise does not agree so well with women, who lead an easy and sedentary life, as they may be injured by motion, especially in the beginning; it is nevertheless very proper for men, and soonest recovers their health (p).

*Riding
the best
strengtheners
of the spi-
rits.*

117. To produce an instance of its efficacy, a reverend and learned prelate having applied himself too intensely to his studies for a long time, was at length seized with an hypochondriac disorder, which, by its long standing, deprav'd all the ferments of the body, and destroy'd the digestions. He had gone through some courses of chalybeates and tried most mineral waters, with repeated purgation, all kinds of antiscorbutic medicines, and abundance of testaceous powders, which bid fair for sweetening the blood. Being thus in a manner worn out, partly by the disease, and partly by the continued use of remedies for so many years; he was at length attack'd with a *colliquative looseness*, which is the usual fore-runner of death in *consumptions* and other chronic diseases, when all the digestive faculties are totally destroyed. At length he consulted me, and I immediately judg'd there was no further place

*Exemplified
in a case.*

C c

for

(p) See above sect. iv. chap. 7. par. 10.

for medicine, as he had taken so many ineffectually; and therefore advised *riding on horseback*; directing him to take only such short journeys at first, as might best suit his weak condition. Had he not been a judicious and considerate person, he could not have been persuaded to try this kind of exercise. I intreated him to continue it every day till he found himself perfectly recovered; and to lengthen his journeys by degrees to a moderate day's journey, and not to mind either meat or drink, or the weather, but to take up with such accommodations as were to be met with upon the road, like a traveller. In short he continued this method till at length he rode twenty or thirty miles a day, and finding himself much amended in a few days, he was encouraged by this wonderful success to continue this course for several months, in which space of time he told me he had rode many thousand miles, so that at length he was not only freed from his disorder, but became strong and brisk.

Excellent in
consumptions.

118. Further, this kind of exercise is not more beneficial to hypochondriac than to consumptive subjects, of which distemper several of my relations have been cured by riding long journeys by my advice. For I was well assured that no other method or medicines were more effectual. Nor is riding on horseback only proper in slight indispositions accompanied with a frequent cough and wasting, but even in confirmed consumptions, wherein the *looseness* is succeeded by *night sweats*, which are the general fore-runners of death, in those who perish by this disease. In fine, how desperate soever a *Consumption* may, or is esteem'd to be, two thirds of such as die of chronic diseases being destroy'd thereby, yet I solemnly affirm, that riding is as effectual a remedy in this disorder, as *mercury* is in the *lues venerea*, or the *bark* in *intermittents*; provided the patient be careful to have his sheets well aired, and takes sufficiently long journeys. But it must be observed, that such as are past the prime of life, must continue the use of riding much longer, than such as are not yet arrived at that age; which I have learnt from much experience, that scarce ever failed me; and tho' *riding on horseback* does most service in
con-

consumptive cases; yet *riding in a coach* does sometimes produce surprising effects. (q)

119. But to resume our subject. This is the general method of curing this disorder, which removes the original cause, consisting in the weak texture of the blood; and is only to be used therefore when the fit is off. But when the fit comes on, accompanied with any one of the abovementioned symptoms, and the disorder be so violent as not to admit of a respite till it can be cured by strengthening the blood and spirits, we must have immediate recourse to hysteric medicines, which by their strong fetid smell compel the disordered spirits to return to their deserted stations, being either taken inwardly, held to the nose, or outwardly applied: such are *asa fetida*, *galbanum*, *castor*, *spirit of sal-ammoniac*, and all such medicines as have a very offensive smell. (r)

What is to be done in the fit.

120. And in effect, whatever has a disagreeable odour, whether it be naturally fetid, or render'd so by art, admirably answers this intention; and probably *spirit of hartshorn*, of *human blood*, of *urine*, of *bones*, and the like, owe their principal virtues to a fetid *em-pyreuma* which they contract in distillation, and is intimately united with them. And this is also manifest in the fumes exhaling from burnt leather, feathers, and similar parts of animals. For all the parts of animals have this property in common, that they emit a fetid vapour or fume whilst they are burning, which being condens'd by distillation is converted into those kinds of liquors, entitled *volatile spirits*, which obtain such properties as did not originally exist in the subjects; as being only creatures of fire: and their virtues are ma-

Fetid medicines proper here.

C c 2 manifestly

(q) *Riding on horseback*, as the learned *Hoffman* observes, is much extolled in a *consumption* and *hectic*, by the most eminent physicians, both ancient and modern. And nevertheless, in the beginning of the distemper, and in young persons of a plethoric habit, it proves detrimental by occasioning frequent returns of the *spitting of blood*. Nor is it at all serviceable, where the lungs are adjudged to be considerably tainted and impostsomated, inasmuch as too much motion of body, either by *riding on horseback*, or in a *coach*, is very apt to bring on a fatal inflammation of this part. But in an *hypochondriac consumption*, or atrophy, the case is extremely different, for here moderate exercise, repeated with frequency, is highly proper. See *Hoff. op. tom. 111. p. 294.*

(r) Here the caution above inculcated should be remembered. See above. par. 107.

nifestly the same from whatever animal substance they be gained.

Laudanum]
sometimes
necessary.

121. It is next to be observed that when the paroxysm is attended with a very violent pain of any particular part, excessive vomiting, or a looseness, besides the *hysteric remedies* above-mentioned, we must exhibit *laudanum*, which is the only medicine that can quiet these symptoms. But unless the pains occasion'd by vomiting be in a manner intolerable, we must be cautious of mitigating them by *laudanum*, or any other opiate, before proper evacuations have been made. (1.) Because sometimes there is so considerable a plenitude of blood and juices in the body, (especially in sanguine and robust women) as to render the frequent repetition of the most powerful opiate ineffectual. In such therefore bleeding in the arm is indispensably necessary, and a purge must be administered; and these things being rightly performed, before proceeding to the use of *laudanum*, the opiate, which availed not in a large quantity, will answer the end in a moderate dose. (2.) Moreover I have learnt from much experience, that whenever the patient had been accustomed by degrees to *laudanum*, and proper evacuations had not been previously made, that she was compell'd, on account of the return of the pain, so soon as the virtue of the opiate vanish'd, to repeat it every day for some years, gradually augmenting the dose; so that in time the patient cannot possibly leave it off, notwithstanding all the digestive faculties are injured, and the natural functions weakened thereby. Tho' I do not conceive that the use of *laudanum* does immediately injure the brain, nerves, or animal faculties.

Bleeding
and purging
when to
be used be-
fore exhi-
biting it.

122. Therefore I judge it necessary from experience to make evacuations, before exhibiting opiates: for instance, in every robust and also plethoric woman, bleeding must be performed, and a purge administered; especially if they have had a fit lately. But if weak women, and those of a contrary constitution, be seized with such a fit and pain, who have but lately been afflicted in the same manner; it will suffice to cleanse their stomachs with three or four quarts of posset drink, and, after the operation, to prescribe a large dose of *Venice treacle*, or *orvietan*, and a few spoonfuls of some grate-
ful

ful spirituous liquor, with a few drops of *liquid laudanum* to be taken immediately after it.

123. But if the Patient has been long afflicted with a vomiting before the physician was called; so that there is reason to apprehend that a vomit might greatly disturb the spirits, and weaken her too much, *laudanum* must immediately be exhibited in such a dose, and repeated with such frequency, as the continuance and urgency of the symptom demand; so that it may be able to conquer it.

When laudanum must be immediately given.

124. But here two cautions are to be particularly observed. (1.) When, after necessary evacuations, the use of *laudanum* is once begun, it must be taken in a sufficiently large dose, and so frequently repeated, that all the symptoms may be removed; only allowing such an interval between every dose, that the effect of the former may be known before another is exhibited. But we have treated largely of this matter in another place. (2.) When we endeavour to cure this distemper with *laudanum*, we must forbear all kinds of evacuations; for the gentlest glyster, of milk and sugar, is enough to destroy all the good effects of the opiate, and cause a return of the pain and vomiting.

Cautions to be observed in giving it.

125. But tho' the pains above-mentioned, as we have already intimated, eminently require opiates, yet a *violent vomiting* indicates much the largest dose of them, and their frequent Repetition. For, in this case, the peristaltic motion of the stomach being inverted, the medicine is ejected by vomit, before it can produce any effect; unless it be exhibited anew after every vomiting, and particularly in a solid form; or if it be given in a liquid one, the quantity of the vehicle must be so small, that it may barely moisten the stomach, so that it may be prevented by the smallness of the matter from throwing it up: for instance, a few drops of *laudanum* in a spoonful of *strong cinnamon water*, or the like. The patient likewise must be cautioned to compose herself immediately after taking the *laudanum*, and to keep her head as steady as may be: for nothing promotes vomiting so much as the least motion of the Head; whence the medicine, which was newly taken in, is ejected. Moreover, when the vomiting is in a manner conquered, it is proper to repeat the anodyne

Violent vomiting requires the largest dose, and a frequent repetition of the opiates.

morning and night, for some days, in order to prevent a relapse: and this should be observed in *hysteric pains*, or a *looseness*, which have been cured by an opiate.

The pain
and vomit-
ing here of-
ten impose
on physi-
cians.

126. By this method the *symptomatic* pain and vomiting may be easily cured, which, because they often resemble other diseases, deceive the physician more than any other symptoms that require their assistance: concerning which I will subjoin a few remarks. For instance, in that kind of hysteric disorder just described, which resembles a *nephritic paroxysm*, and a genuine fit of this kind, is it not manifest that the symptoms differ very little? For the pain attacks the same part in both disorders, and is also attended with a vomiting, and notwithstanding they proceed from very different causes, and require such different treatment, that what relieves in the one, injures in the other, and *vice versa*. (s) For where the stone, or the gravel, corrodes the kidneys, occasions pain, and a vomiting also by consent of parts, nothing does so much service as a copious and frequent revulsion of the antecedent cause by bleeding, and dilating and relaxing the vessels thro' which the stone is to pass, by the frequent repetition of *emollient glysters*, and internals of the same kind, along with *diuretics*, and *stone-dissolving* medicines. But when these symptoms do not proceed from the stone, but from a too copious derivation of the animal spirits to the kidneys, (in which case only opiates are indicated, and the gentlest glyster cannot be safely injected, after the first evacuations) I need not observe that a different method of procedure must needs be extremely hazardous.

Danger of
mistaking
the cause
thereof.

And also of
that disor-
der which
resembles
the bilious
colic.

127. The same may be affirmed of that hysteric disorder, which resembles the *bilious colic*, or the *iliac passion*: for when it is held to be the bilious colic, (tho' it is of a quite contrary nature, and occasioned by the separation of a sharp humour into the bowels, thro' the mouths of the *mesenteric* arteries) which is a mistake, that a physician, who is not sufficiently observant and considerate, may be easily led into, from the violent pain, and the green colour of the matter discharged upwards and downwards; the best method of cure consists in smoothing the acrimony of the humours by cooling and thickening medicines, and giving pur-

(s) See above sect. 4. chap. 7. par. 18.

purgatives frequently, besides glysters every day, in order to free the bowels from them ; especially *mercurius dulcis* mix'd with *scammony* to carry off the morbid matter entirely. But if this disease, which is taken for the *bilious colic* be in reality a *hysteric* or *hypochondriac* symptom, 'tis clear, that this method must needs be wrong and very hazardous, since experience testifies, that after the first general evacuations, which are intended to carry off the corrupt humours, generated by the irregular motion of the spirits, whence the virtue of the opiate may be obstructed, nothing more needs be done than to quiet the tumultuous spirits till the symptoms vanish ; after which it is proper to administer chalybeates, or any other remedy, which may eradicate the disease, by strengthening and warming the blood. It is not my design to enumerate the many ill accidents which I have known happen to women, when this *hysteric colic* has been esteemed to proceed from *bile* : Nevertheless, I scruple not to assert, that the frequent repeated evacuations, which in effect are manifestly indicated in the *bilious colic*, instead of relieving, increase the pain and vomiting, by promoting the disturbance of the spirits, whence these symptoms originally proceed. But at length, the disease being prolonged for some months, terminates in convulsions, from a sudden translation of the *morbific cause* to the brain, which soon destroys the patient ; and especially if an emetic be exhibited, after a long-continued repetition of other evacuations, on account of the green colour of the matter vomited up. (t) In a word, I have learnt from observation, that particular caution must be had to guard against all errors in the diagnostics, by judging the common hysteric symptoms, to proceed from other diseases which they frequently resemble.

128. And here I must inform you, that besides the imminent danger to which hysteric women are exposed to on account of the mistakes already enumerated ; there is another, which is equally fatal to numbers thus afflicted, when this disease, tho' it is not naturally mortal, proves so from the bad symptoms which succeed it. To exemplify this, let us suppose that a woman of a slender and weakly constitution, is happily delivered, and a few days after the midwife, either thro' Ignorance

*This disease
sometimes
mortal from
the bad
symptoms
succeeding
it.*

C c 4

(t) See above sect. iv. chap. 7. par. 16. & seq;

A stoppage
of the LO-
CHIA in
child-bed
whence.

rance, or vanity, in order to shew how well she has performed her office, persuades her to rise from bed and sit up a while; which being complied with, the patient is immediately seized with an hysteric disorder, and, as it encreases, the *lochia* are first diminished, and then entirely suppressed, and their unseasonable stoppage succeeded by a numerous train of symptoms, which soon prove fatal, unless great skill and diligence be used to prevent it. And sometimes a *delirium* proceeds from the same cause, which, augmenting continually, occasions convulsions, and then death: or, if the patient escapes, she looses her senses, and continues mad for the remainder of life. Sometimes a suppression of the *lochia* is followed with a fever, which becomes nearly, or perhaps entirely, similar to the then reigning epidemic: moreover the same hysteric disorders that first occasioned the suppression of the *lochia*, rage more violently now, thus, as it were, generating themselves afresh.

Mischiefs of
rising too
soon after
delivery.

129. I have long been of opinion, that scarce a tenth person of such as die in child-bed, perishes either for want of sufficient strength to bring forth the child, or from the pains accompanying a difficult birth, but chiefly from rising too soon after delivery, hysteric paroxysms being hereby occasioned, which, when the *lochia* are stopped, cause a numerous train of fatal symptoms. Upon this account, those that follow my advice, keep in bed at least till the *tenth* day, in case they are of a weak constitution, and especially if they have formerly been subject to *vapours*. For the rest they have in bed not only preserves them from the symptoms so often enumerated, but the continued warmth thereof revives the spirits, which are debilitated and exhausted by the labour-pains, and the ordinary evacuations happening in this case, and likewise strengthens nature, and carries off those crudities that were collected during the time of pregnancy.

Weak wo-
men ought
not to be suf-
fered to rise
till the
tenth day.

Method of
caring a
suppression
of the LO-
CHIA.

130. But if any one of the symptoms above enumerated happen from such an error, the curative indications are to endeavour (1.) to compose the spirits disturb'd by this motion, and (2.) to remove the suppression of the *lochia*; this being the immediate cause of these symptoms. This method, however, must not be obstinately pursued; but having continued the use of those remedies, for some time, which ordinarily succeed

in this case, and they fail, we are to leave them off; for, as forcing medicines are not to be administered here, so neither ought we to persist in exhibiting those of a milder kind, because of the extreme weakness and lowness of spirits, which child-bed women, who are thus affected, labour under. To illustrate this by an instance, it appears, that as soon as the *lochia* are suppress'd, it is proper to put the woman to bed, and apply an hysteric plaister to the navel, and prescribe the following electuary to be exhibited with all convenient expedition:

Take of the conserve of Roman wormwood and of rue, *An opening*
each an ounce; troches of myrrh, two drams; castor, *electuary.*
saffron, volatile sal-ammoniac, and asa fætida, each
half a dram; syrup of the five opening roots, a
sufficient quantity to make them into an electuary;
of which let the quantity of a large nutmeg be taken
every three hours, drinking after it four spoonfuls
of the following julap.

Take of the distilled water of rue, and compound briony *A cordial*
water, each three ounces; fine sugar enough to sweeten *julap.*
it; mix them for a julap.

If these medicines be given as soon as the suppression *Laudanum*
of the *lochia* appears, they generally effect a cure: but *when to be*
if the disorder continues after the whole quantity here *given in*
directed is taken; we must exhibit at least a single dose *this case.*
of *laudanum*; which, tho' it be naturally astringent,
yet, by allaying the hurry of the spirits, whereby the
usual flowing of the *lochia* is check'd, it does great ser-
vice, and may sometimes remove the suppression, when
emenagogues avail not: but opiates are most com-
modiously exhibited, along with hysterics and emena-
gogues: e. g. fourteen drops of *liquid laudanum* in com-
pound briony water; or a grain and half of *solid lauda-*
num, and half a scruple of *asa fætida* made into two pills.

131. It must, however, be carefully observed, that in *Not to be*
case the *lochia* do not flow afresh by giving a single dose, *repeated.*
the *opium* is by no means to be repeated, as is usual and
requiute in other cases; because a repetition of it here
would suppress them so powerfully that they could not
afterwards be forced. If therefore, after having waited
some time, to be assured of its effects, we find it fail,
we

we must return to *emenagogues*, joined with *hysterics*, and then inject a glyster of *milk and sugar*. And what has been inculcated above concerning *opium* is equally applicable to glysters; for if the first dose does not bring down the *lochia*, nothing is to be expected from more; one being sufficient to answer this end, by inviting the humours gently downwards, whilst more may divert them another way. (u)

But best to wait, and see what effect Time will produce.

132. This method having been us'd, with the caution above directed, it is safest, and incumbent on a prudent physician, to wait and see what effect time will produce; for the danger lessens every day, and if the patient outlives the *twentieth* day, she is in a manner out of danger. For when the woman has had a respite, and recovered some degree of strength, she will be able to bear the properest method of removing that disorder, whatever it be, which proceeded from the suppression of the *lochia*; whereas, contrariwise, by continuing to give a multitude of remedies, when the first proves ineffectual, the disease, and the hurry of the spirits occasioning it, may be encreased; which deserves particular attention.

Illustrated by a case.

133. I was sent for not long since by a lady, who, from the cause just specified was seized immediately after delivery with hysteric paroxysms, and a stoppage of the *lochia*. I endeavoured to force them by the remedies above enumerated, but succeeded not; the hysteric disorder being so violent, as not to yield to medicine. Having therefore at length foreseen that she would recover

(u) As the *lochia* may be suppress'd from different causes, regard must always be had to the species of the cause whence this disorder proceeds. Thus, after a difficult delivery, which has been accompanied with severe pains, occasioning violent spasmodic contractions of the solids, and a tumultuary motion of the fluids, whence the *lochia* cease to flow, the curative indication is to allay the commotion, which may be accomplish'd by bleeding, if requisite, glysters, anodynes, a moderately cooling regimen, keeping the patient quiet, and administering mild diaphoretics, along with diluting thin liquors. But if the *lochia* be suppress'd by taking of cold, an obstructed perspiration, the depressing passions, and the like; the patient must be confined to her bed, and use a warm perspirative regimen, drinking all her liquors warm, taking a few spoonfuls of some proper cordial, or warm wine between times, and living on gellies, panada, broth, &c. not omitting the use of proper uterine medicines at the same time, as *myrrh borax*, *saffron*, *sperma ceti*, *volatile salt of amber*, *wild valerian root*, *volatile spirits*, and the like.

cover if I did nothing at all, I judged that the cure might be left to time, the best physician. And my advice succeeded well till the *fourteenth* day ; for visiting her every day, I never found her one day worse than she was the day before. But after this, her attendants, whom I had hitherto prevented from injuring her, under the appearance of assisting her, prevailed with her husband to have her immediately blooded in the foot ; which being done, the hysteric paroxysms encreased to that degree, as in a few hours to occasion convulsions, which soon proved fatal.

134. And indeed, if I may speak my sentiments freely, I have long been of opinion, that I act the part of an honest man, and a good physician, (not only in these diseases of child-bed women, but likewise in all acute diseases, where I cannot certainly promise that the method I make choice of will perform the cure) as often as I refrain entirely from medicine, when upon visiting the patient I find him no worse to-day than he was the day before, and have reason to suppose he will be no worse to-morrow than he is to-day. Whereas, if I attempt to cure the patient by a method, which I do not yet know to be effectual, he will be endangered, both by the experiment I am going to make upon him, and the disease itself ; nor will he so easily escape two dangers as one. For tho' at present there appears no manifest sign of his amendment, yet it is certain, that the nature of an acute disease is such, that it cannot always last ; and besides, every day will lessen the danger, or at least, afford the physician a more favourable opportunity, of conquering the disease, than he had before. And this may truly be affirmed of most diseases, but chiefly of such as are peculiar to women in child-bed, wherein the least error may prove fatal, and we find it so difficult to govern that natural evacuation, from the suppression whereof the diseases we have been treating of proceed.

The equity of this manner of procedure.

135. But as *hysteric diseases* do not always originally arise from the primary cause, which is the *natural weakness of the spirits*, but sometimes from an adventitious weakness thereof ; I intend, therefore, before I finish this epistle, to treat of this kind of cause, which is frequently productive of what are entitled *vapours* : and this is an im-

Hysteric disorders sometimes caused by an immoderate flux of the menses.

moderate

The first species of it described, and the method of cure delivered.

moderate flux of the menses, either in child-bed, or at other times. The first species chiefly happens soon after a difficult delivery, and is attended with a numerous train of hysteric symptoms; but as it only comes and proves troublesome in the beginning, so it soon goes off; being easily remedied by an incrassating diet, wherewith the following drink may be joined. (x)

An astringent drink.

Take of plantain water and red wine, each a pint; boil them together to the consumption of a third part, and then sweeten it with a requisite proportion of fine sugar. Give half a pint of it twice or thrice a day.

In the mean time some sufficiently weak hysteric junap may be exhibited at times, and the following composition held to the nose.

A fetid paste.

Take of galbanum and asa fætida, each two drams; castor, a dram and half; volatile salt of amber, half a dram; mix them together.

Or,

Volatile drops.

Take spirit of sal-ammoniac, two drams; and let the patient smell to it often.

The second described, and the method of cure particulariz'd.

136. But as to an *immoderate flux of the menses*, which seizes women, when they are not pregnant, tho' it happens at any time; yet it most frequently comes a little before the *menses* leave them; namely, about the age of forty, if they began early, or about fifty, if they began late. In such subjects they often flow immoderately, a little before they vanish entirely, and occasion violent and frequent hysteric fits, from the large quantity of blood, which is continually lost. Now tho' hysteric medicines are to be us'd in this case both internally and externally, avoiding the stronger kind, for fear of promoting the flux, yet the chief step towards the cure consists in checking the menstrual

(x) Should not this rather be entitled an immoderate flux of the *Lochia* or *violent flooding*, the menstrual discharge never happening at this period of time? The cure of it is effected by keeping the patient moderately cool, bleeding, if the strength will admit, promoting sleep and rest, using restringents internally and externally, especially applying linnen cloths dip'd in vinegar to the regions of the *abdomen* and *loins*. A small kind of punch prepared with the *symplic* *electare* of *Helvetius*, instead of brandy, is a very proper drink in this case.

menstrual discharge, which may be soon effected in the following manner.

137. Take away eight ounces of blood from the arm, and the next morning give the common purging potion, which must be repeated every third day for twice; and let her take an ounce of diacodium every night at bedtime during the course of the disease. *The process.*

Take of the conserve of dried roses, two ounces; troches of lemnian earth, a dram and half; pomegranate bark, and red coral prepared, each two scruples; blood-stone, dragon's blood, and armenian bole, each a scruple; and as much simple syrup of coral as will make the whole into an electuary: of which let the quantity of a large nutmeg be taken every morning, and at five in the afternoon, with six spoonfuls of the following julap. *An astringent electuary.*

Take of the distilled waters of oak-buds and plantain, each three ounces; small cinnamon water, and syrup of dried roses, each an ounce; spirit of vitriol enough to give it an agreeable sharpness. *An astringent julap.*

Take of the leaves of plantain and nettles, each a sufficient quantity: bruise them well together in a marble mortar, and press out the juice, and lastly clarify it. Let six spoonfuls of it be taken cold three or four times a-day. *Incrassating juices.*

After the first purge, let the following plaister be applied to the region of the loins.

Take of diapalma, and rupture-plaister, each equal parts; melt them down together, and spread the mass on leather. *A strengthening plaister.*

138. A cooling and thickening diet must be prescribed, only it will be convenient to allow the patient a small draught of claret once or twice a day; which, tho' it be not altogether so proper, inasmuch as it is apt to raise an ebullition, may be indulged in order to repair the strength. And this method is not only very serviceable in these disorders of the sex, but is equally useful where there is danger of a miscarriage; only *The regimen to be used.*

in this case the purgatives and juices must be omitted. (y)

Hysteric disorders sometimes caused by a bearing down of the womb. How to be cur'd. A restraining fomentation.

139. There is also another cause of hysteric disorders, tho' it happens more rarely, and this is a *bearing down of the womb*, after a difficult birth, attended with abundance of hysteric symptoms, which, however, may be easily and speedily cured by the following method.

Take of oak-bark, two ounces ; boil it in two quarts of spring-water to one ; and towards the end of the operation add of pomegranate peel bruis'd, one ounce ; red rose leaves and balaustines, each two handfuls ; and lastly half a pint of red wine : strain off the liquor for a fomentation, to be applied with flannels in the usual manner, every morning, two hours before the patient rises, and at night after she is in bed ; continuing the use of it till the disorder vanishes. (z)

The conclusion.

140. And now, worthy sir, having communicated all the observations I have hitherto made, relating to the history and cure of the *hysteric disease*, I have no more to add, but to entreat you to excuse any inaccuracy, I may have committed in the description thereof, and likewise to accept this short dissertation, which was wrote expressly to return you thanks for your approbation of my other works. And in reality, I so rarely meet with such treatment, that I must needs conclude, either that I am void of merit, or that the candid and ingenuous part of mankind, who are formed with so excellent a temper of mind, as to be no strangers to gratitude, make a very small part of the whole. But whatever opinion the world may form of me, I will still continue to investigate and improve the method of curing diseases, to the best of my ability, and to instruct

(y) An infusion of the *bark* in red-wine is no contemptible medicine in this case ; and it may not be amiss to apply an astringent fomentation to the part ; such as that set down in the next paragraph. Sir *David Hamilton* commends a decoction of orange peel in this case, and I have experienced it to be a safe and effectual remedy.

(z) No notice is taken here of suspending the *abdomen* in a proper manner, and using a fit posture, which are so very necessary in the cure of this disorder, that 'tis frequently not removeable without ; the patient therefore should refrain from motion, and indulge an horizontal situation, and use cardiacs and gentle astringents internally, along with a suitable regimen.

struct such practitioners, as have less experience than myself. For, upon deliberate and equitable reflection, I find it is better to assist mankind than to be commended by them, and highly conducive to tranquillity of mind ; popular applause being lighter than a feather, or a bubble, and less substantial than a dream. But if the wealth that is gained by such an eminent name should by some be thought to be of a more solid kind, I do not at all envy them the enjoyment of what they have acquired, but would have them remember that the lowest class of mechanics do sometimes get and leave greater fortunes to their children ; and yet in this respect they are no way superior to brutes, who make the best provision they can for themselves and their issue. For if we except such good actions as proceed from choice and a virtuous disposition, (which brutes are naturally incapable of) they are manifestly upon the footing of an equality with these, and all other men, who have not the welfare of mankind at heart.----Pray give my service to our learned friend Mr *Kendrick*, who informed me of your affection for me, which I will endeavour to return in the best manner I am able, who am,

Worthy Sir,

London,

Jan. 20. 1681-2.

Your most obliged

And affectionate

Humble servant,

THO. SYDENHAM.

A TREATISE OF THE GOUT and DROPSY.

*The Dedicatory Epistle of the AUTHOR, to
Dr. THO. SHORT, Fellow of the College of
Physicians.*

Worthy Sir,

I Present you here with a short treatise of the *gout* and *dropsy*, instead of a larger work, which I had thoughts of writing, namely, the history of those *chronic* distempers especially, which I have ofteneft met with in my practice. But as my immoderate application to this work occasioned the severest fit of the *gout* I ever had, it was a caution to desist from my undertaking, tho' with reluctance, and consult my health, resting satisfied with having finish'd my essay on these two diseases: for the *gout* constantly return'd, as often as I attempted to go on with the work.

Be pleas'd therefore, to accept this performance with all its faults, which is address'd to you for two capital reasons. First, because you have upon all occasions readily acknowledged and asserted the usefulness of the observations I formerly publish'd, which some persons set little value upon: and, secondly, because in the mutual intercourse we have had in consultations, I have found your genius well adapted to the practice of physic. For tho' you excell in all kinds of literature; yet nature has rather intended you for an accurate practitioner, than an idle theorist; practice and speculation differing as much from each other as trifles and matters of the greatest importance; so that, if my observation be right, they seldom meet in one and the same person.

Your penetration, joined with a large and extensive practice, which hath furnished you with an opportunity of making experiments, hath placed you at the head of the faculty, and your affability will be a means of preserving the esteem you have acquired. If the following sheets be not disapproved by you (to whom they are inscribed) and a few worthy men, my friends, I shall little regard the censure of others, who asperse me, purely because I dissent from their opinions, relating to diseases, and the
me-

methods of cure. And this I cannot possibly help, because my natural disposition inclines me to spend that time in thinking, which others employ in reading; and am more sollicitous, that all I deliver should be agreeable to truth, than to the sentiments of others; as setting lightly by public applause. And indeed, provided I discharge the duty of a good citizen, and serve the public, to the prejudice of my private interest, what matters it if I gain no reputation therefrom? For upon due consideration, my endeavouring to secure a character, who am now advanced in years, will, in a little time, be like providing for a non-existence. For of what service will it be to me after my decease, that the eight letters, which compose my name, will be pronounced by those who can no more frame an idea of me in their minds, than I am now able to conceive what kind of persons those will be, who can have no knowledge of their predecessors, and will perhaps have a different language and other customs, according to the changes and unsettled condition of human affairs? To what purpose, therefore, should I concern myself about the opinions of others? For if I have improved the diagnostic and curative parts of medicine, and thereby entitled myself to some praise, I cannot long enjoy it; and, on the contrary, if my writings are not relished by some, I scarce think I shall trouble the public with more, by reason of my ill state of health. In reality, my hand trembled so, that I was not able to write this short treatise I now publish; but was assisted in this particular (which I gratefully acknowledge) by Mr. *John Drake*, batchelor in physic, of *St. John's* college in *Cambridge*, whose good nature and integrity render him an excellent friend; and whose natural and acquired endowments will make him highly useful to mankind, when he pleases to practice an art he is so well skill'd in. I conclude, with asking your pardon for the trouble I may have given you in the performance of my duty, and desiring you to believe that it proceeds from the regard and esteem I bear you, who am,

Sir,

Your most obedient servant,

London,

May 21. 1683. THO. SYDENHAM.

D d

A

A TREATISE of the GOUT.

*The gout
hard to be
understood.*

1. **T**HERE is no doubt, but men will conclude, either that the nature of the disease, which is my present subject, is in a manner incomprehensible, or that I, who have been afflicted with it for these thirty four years past, am a person of slender abilities, inasmuch as my observations concerning the distemper and the cure thereof fall short of answering their expectations. But notwithstanding this, I will faithfully deliver the remarks I have hitherto made, concerning the difficulties and intricacies respectively occurring in the history of the disease, and the method of cure; leaving the illustration thereof to time, the discoverer of the truth. (a)

*Whom it
chiefly at-
tacks.*

2. The *gout* generally attacks those aged persons, who have spent most part of their lives in ease, voluptuousness, high living, and too free an use of wine, and other spirituous liquors, and at length, on account of the common inability to motion in old age, entirely left off those exercises, which young persons generally use. (b) And further, such as are liable to this disease have large heads, and are generally of a plethoric, moist, and lax habit of body, and withal of a strong and heal constitution, and possess'd of the best *stamina vitæ*.

3. The

(a) The nature and cause of the *gout* are perhaps as little understood at this day, as they were in our author's time; but we are much better acquainted with the method of relieving it, which is the most essential and beneficial part of knowledge, and which, so far as it receives any improvement from theory, entitles that theory to our notice, and establishes it upon the only solid foundation.

(b) That the *gout* does often proceed originally from intemperance, inactivity, and indolence, is not to be denied; but in case it be deriv'd hereditarily from *gouty* parents, and so in a manner interwoven with the frame and structure of the body, the strictest regimen, together with an over-cautious use of the rest of the *non-naturals*, generally avail little towards a perfect cure; and, imprudently persisted in, do sometimes weaken the constitution so much, that it cannot throw the distemper upon the external parts, whence it exerts its violence upon the inward parts, and destroys the patient without ever producing a regular fit.

3. The *gout*, however, not only seizes the gross and corpulent, but sometimes, tho' less frequently, affects lean and slender persons : neither does it always wait till old-age comes, but sometimes attacks such as are in the prime of life, when they have received the seeds of it from *gouty* parents, or have otherwise occasioned it by an over-early use of *venery*, or the leaving off such exercises, as they formerly indulged to excess ; and besides have had a voracious appetite, and used spirituous liquors immoderately, and afterwards quitted them, of a sudden, for those of a thin and cooling kind. (c)

Sudden change of the ordinary way of living disposes to the gout.

4. When it seizes a person far advanced in years, for the first time, it never has such stated periods, nor proves so violent, as when it attacks a younger person, because (1.) he generally perishes before the disease, accompanied with its natural symptoms, comes to its height ; and (2.) because the natural heat and vigour of the body being abated, it cannot be so constantly and powerfully thrown off upon the joints. But when it comes on sooner, tho' it may not yet fix on one part, nor prove so severe, but affect the patient occasionally, keeping no certain period, giving only a little pain for a few days, and coming on, and going off without any order ; yet it increases gradually, and goes on regularly, both with respect to the time of its coming and the continuance of the fit, and then rages more violently in its progress, than in its beginning.

Differs in its symptoms and manner of seizure in different persons.

5. I will first treat of the *regular gout*, and next of the *irregular one* ; whether occasioned by an unadvised use of improper remedies, or the weakness of the subject. The *regular gout* generally seizes in the following manner. It comes on a sudden towards the close of *January*, or the beginning of *February*, giving scarce any sign of its approach, except that the patient has been afflicted for some weeks previous thereto with a bad digestion, crudities of the stomach, and much flatulency

How the regular gout begins and proceeds.

D d 2

(c) So hasty a change from one extremity to another, must needs weaken the constitution in a great degree in most persons, and consequently may dispose them to the *gout*, or other *chronic* diseases, according as they have a tendency to any particular distemper ; and thus a greater evil may be occasion'd than the change is intended to prevent. Such steps, therefore, are not to be taken without good advice, and the alteration is then to be made slowly and gradually.

tulency and heaviness, that gradually increase till the fit at length begins; which however is preceded for a few days, by a numbness of the thighs, and a sort of descent of flatulencies thro' the fleshy parts thereof, along with convulsive motions; and the day preceding the fit the appetite is sharp, but præternatural. The patient goes to bed and sleeps quietly, till about two in the morning, when he is awakened by a pain which usually seizes the great toe, but sometimes the heel, the calf of the leg, or the ankle. The pain resembles that of a dislocated bone, and is attended with a sensation, as if warm water were poured upon the membranes of the part affected; and these symptoms are immediately succeeded by a chillness, shivering, and a slight fever. The chillness and shivering abate in proportion as the pain increases, which is mild in the beginning, but grows gradually more violent every hour, and comes to its height towards evening, adapting itself to the numerous bones of the *tarsus* & *metatarsus*, the ligaments whereof it affects; sometimes resembling a tension or laceration of those ligaments, sometimes the gnawing of a dog, and sometimes a weight and constriction of the membranes of the parts affected, which becomes so exquisitely painful, as not to abide the weight of the cloths, nor the shaking of the room from walking briskly therein. And hence the night is not only passed in pain, but likewise with a restless removal of the part affected from one place to another, and a continual change of its posture. Nor does the perpetual restlessness of the whole body, which always accompanies the fit, and especially in the beginning, fall short of the agitation and pain of the gouty limb. Hence numberless fruitless endeavours are used to ease the pain, by continually changing the situation of the body and the part affected, which, notwithstanding, abates not till two or three o' clock in the morning, namely, twenty four hours from the first approach of the fit; when the patient is suddenly relieved by means of a moderate digestion and some dissipation of the peccant matter; tho' he falsely judges the ease to proceed from the last position of the part affected. And being now in a breathing sweat he falls asleep, and upon waking finds the pain much abated, and the part affected to be then swell'd, whereas before, only a remarkable

markable swelling of the veins thereof appeared, as is usual in all *gouty* paroxysms. The next day, and perhaps two or three days afterwards, if the *gouty matter* be copious, the part affected will be somewhat pained, and the pain encrease towards evening, and remit about break of day. In a few days it seizes the other foot in the same manner; and if the pain be violent in this, and that which was first seized be quite easy, the weakness thereof soon vanishes, and it becomes as strong and healthy, as if it had never been indisposed: nevertheless, the *gout* affects the foot just seized, as it did the former, both in respect of the vehemence and duration of the pain: And sometimes, when there is so copious a peccant matter in the beginning of the fit, that one foot is unable to contain it, it affects both at the same time with equal violence: but it generally attacks the feet successively, as above remarked. When it has seized both feet, the following fits are irregular, both with respect to the time of seizure and their continuance, but the pain always increases in the evening, and remits in the morning: and what we call a *fit of the gout*, which goes off sooner or later, according to the age of the patient, is made up of a number of these small fits. For when this disease lasts two or three months, it is not to be esteemed one continued fit, but rather a series or assemblage of little fits, the last of which proves milder and shorter, till the peccant matter being at length entirely expelled, the patient recovers his former health; which, in strong constitutions, and such as seldom have the *gout*, often happens in the space of fourteen days; and in the aged, and those that have frequent returns of the disease, in two months; but in such as are more debilitated, either with age, or the long duration of the distemper, it does not go off till summer advances, which drives it away. During the first fourteen days the urine is high-coloured, and after separation or standing, lets fall a red gravelly sediment; and not above a third part of the liquids taken in is voided by urine; and the body is generally costive during this time. The fit is accompanied throughout with the loss of appetite, a chillness of the whole body towards the evening, and a heaviness and uneasiness even of those parts that are not affected by the disease. When the fit is going off, a violent itching seizes the foot, especially

cially between the toes, whence the skin peels off, as if the patient had taken poison. The disease being over, the appetite and strength returns sooner or later, according as the immediately preceding fit hath been more or less severe, and in consequence of this the following fit comes on in a shorter or longer space of time; for, if the last fit proved very violent, the next will not attack the patient till the same season of the year returns again. (d)

The symptoms of the irregular gout enumerated.

6. In this manner does the *regular gout*, accompanied with its genuine and proper symptoms, appear; but when it is exasperated, either by wrong management or long continuance, so that the substance of the body is in a manner changed into supplies for the disease, and nature unable to expel it according to her usual way, the symptoms differ considerably from those just described. For, whereas the pain hitherto only affected the feet (which are the genuine seat of the morbid matter, which, whenever it attacks any other part, clearly proves either that the course of the disease is obstructed, or the strength gradually impair'd) it now seizes the hands, wrists, elbows, knees, and other parts, no less severely than it did the feet before. For sometimes it renders one, or more of the fingers crooked, and motionless by degrees, and at length forms stony concretions in the ligaments of the joints, which destroying both the scarf-skin and skin of the joints, stones not unlike chalk or crabs eyes come in sight, and may be pick'd out with a needle. Sometimes the morbid matter is thrown upon the elbows, and occasions a whitish swelling, almost as large as an egg, which becomes gradually inflamed and red. Sometimes it affects the thigh, which seems to sustain a great weight, yet without much pain; but thence gaining the knee, it attacks that part more violently, depriving it of motion, so as to nail it in a manner to the same place in bed. And when it is necessary to move the patient, either on account of the restlessness of the whole body, which is

so
(d) This is the most accurate history of the beginning and progress of the *regular gout* which has yet been published; and being exactly copied from nature, will appear in most subjects the same with little variation. The exactness of our excellent author in the descriptive part, may justly be proposed to all future writers on the art of medicine, as a model worthy of their closest imitation. The skilful *Hoffman* has inserted this history of the *gout* at length in his discourse on this disease, not being able to furnish out a better.

So frequent in this disease, or some other urgent cause, it ought to be done with great caution, as the least contrary motion, or shock, may perhaps give pain, which is only tolerable for this reason, because it soon goes off. And indeed, this moving of the patient, which should be performed with such care and tenderness by the Assistants, is no inconsiderable part of the evils which attend the *gout*; for the pain is not very violent the paroxysm throughout, in case the part affected be kept quiet.

7. As the *gout* formerly did not usually come on till the decline of winter, and went off in two or three months; in the present case, it continues all the year, excepting two or three of the warmest summer months. And it is further to be observed, that as the *cardinal* or *general fit* continues longer now than it did heretofore, so likewise those *particular fits* of which the *general one* is made up, rage a longer time; for, whereas one of these did not last above a day or two before, it now, wherever it fixes, does not go off till the *fourteenth* day, especially if the feet or knees be affected thereby. To this may be added, that the patient on the first or second day after its coming, besides the pain, is afflicted with sickness, and a total loss of appetite.

It continues most part of the year.

8. In the last place, before the disease came to such a height, the patient not only enjoyed longer intervals between the fits, but likewise had no pain in the limbs and the other parts of the body, all the bodily functions, being duly performed; whereas now his limbs, during the intermission of the disease, are so contracted and disabled, that tho' he can stand, and perhaps walk a little, yet it is very slowly, and with great trouble and lameness, so that he scarce seems to move at all; and, if he endeavours to walk beyond his strength, in order to recover the use of his feet; the stronger they grow, and the less liable they are to pain upon this account, so much more does the morbid matter, not wholly dissipated during this interval, threaten the bowels to the endangering the patient, as it cannot be so freely thrown upon the feet, which at this state of the disease, are never quite free from pain.

The intervals shorter, and attended with great weakness.

9. Moreover, the patient is likewise afflicted with several other symptoms; as a pain in the hæmorrhoidal veins, nauseous eructations, not unlike the taste of the aliment

And other bad symptoms.

last taken in, corrupting in the stomach, happening always after eating any thing of difficult digestion, or no more than is proper for a healthy person; together with a loss of appetite, and a debility of the whole body, for want of spirits; which render his life melancholy and uncomfortable. The urine, which was before high-coloured, especially in the fits, and voided in a small quantity, now resembles that which is evacuated in a *diabetes* both in colour and quantity; and the back and other parts itch much towards bed-time.

10. And when the disease is become inveterate, after yawning, especially in the morning, the ligament, of the bones of the *metatarsus* are violently stretched, and seem to be squeez'd with great force by a strong hand. And sometimes, tho' no yawning has preceded, when the patient is disposing himself to sleep, he feels a blow of a sudden, as if the *metatarsus* were breaking in pieces by a large stick, so that he wakes crying out with pain. The tendons of the muscles of the *tibiæ* are sometimes seiz'd with so sharp and violent a convulsion, or cramp, that if the pain it occasions were to last only a short time, it could not be borne with patience.

11. But after many racking pains, the following paroxysms become less painful, as an earnest of the delivery which approaching death is about to give, nature being in part oppress'd by the quantity of the morbid matter, and in part by old age, so as not to be able to propel it constantly and vigorously to the extremities; but instead of the usual external pain, a certain sickness, a pain in the belly, a spontaneous lassitude, and sometimes a tendency to a *diarrhoea* succeed. When these symptoms are violent, they ease the pain of the limbs, which returns upon their going off; and the paroxysms are much prolonged by this alternate succession of pain and sickness. For it is to be observed, that when the disease has continued several years, the pain diminishes gradually every fit, and the patient at length sinks rather from the sickness than the pain; which in these fits, tho' it be longer, is not near so violent as that which he usually suffered, when his strength was little impaired. But nevertheless this violence of the disease was ordinarily recompenced by longer intervals between the fits, and the good state of health the patient enjoyed during the intermission. In effect,

effect, pain in this disease is the disagreeable remedy of nature; and the more violent it proves, the sooner the fit terminates, and the longer and more perfect is the intermission; and so on the contrary.

12. But besides the above-mentioned symptoms, viz. the pain, lameness, inability to motion of the parts affected, the sickness, and other symptoms above enumerated, the *gout* breeds the *stone in the kidneys* in many subjects, either (1.) because the patient is obliged to lie long on his back, or (2.) because the secretory organs have ceased performing their proper functions; or else (3.) because the *stone* is formed from a part of the same morbid matter; which however I do not pretend to determine. But from what cause soever this disease proceeds, the patient is sometimes at a loss to know whether the *stone* or the *gout* be most severe. And sometimes a suppression of urine, caused by the stone's sticking in the urinary passages, destroys him without waiting for the slow advances of its concomitant the *gout*.

The gout generative of the stone in the kidneys.

13. The patient is not only reduced to this helpless condition, but, to compleat his misery, his mind during the fit sympathizes with his body, so that 'tis not easy to determine which of the two is most afflicted. For every paroxysm may be as justly denominated a fit of anger, as a fit of the *gout*; the rational faculties being so enervated by the weakness of the body, as to be disordered upon every trifling occasion; whence the patient becomes as troublesome to others as he is to himself. Moreover he is equally subject to the rest of the passions, as fear, anxiety, and the like, which also torment him till the declension of the disease, when the mind is restor'd to health along with the body, having recovered its former tranquillity.

And of great disorders of mind.

14. To conclude: the *viscera* in time are so much injured, from the stagnation of the morbid matter therein, that the organs of secretion no longer perform their functions, whence the blood, overcharged with vitiated humours, stagnates, and the *gouty matter* ceases to be thrown upon the extremities as formerly, so that at length death frees him from his misery.

Whence it proves mortal.

15. But what is a consolation to me, and may be so to other *gouty* persons of small fortunes and slender abilities, is, that kings, princes, generals, admirals, philosophers,

Destroys more rich than poor, and learned than illiterate persons.

sophers, and several other great men, have thus lived and died. In short, it may in a more especial manner be affirmed of this disease, that it destroys more rich than poor persons, and more wise men than fools ; which seems to demonstrate the justice and strict impartiality of Providence, who abundantly supplies those that want some of the conveniencies of life, with other advantages, and tempers his profusion to others with equal mixture of evil ; so that it appears to be universally and absolutely decreed, that no man shall enjoy unmixed happiness or misery, but experience both : and this mixture of good and evil, so adapted to our weakness and perishable condition, is perhaps admirably suited to the present state.

Seldom seized women, children, or very young persons.

16. The *gout* seldom attacks women, and then only the aged, or such as are of a masculine habit of body ; for lean and emaciated women, who, in their youth or riper age, are seized with symptoms not unlike the *gout*, receive them from *hysterical* disorders, or some preceding *rheumatism*, the morbid matter whereof was not sufficiently carried off in the beginning. Nor have I hitherto found children, or very young persons, affected with the *true gout*. Yet I have known some who have felt some flight touches of it before they came to youth, but they were such as were begot by *gouty parents* (e). And let this suffice for the the history of this disease.

The gout occasioned by a debilitated concoction.

17. Upon a thorough attention to the various symptoms of this disease. I judge it to proceed from a *weakened concoction* both of the solids and fluids (f) ; for such as are subject to it, being either worn out by old age, or having hastened this period of life by living freely, labour under an universal paucity of animal spirits, wasted by the immoderate exercise of the vigorous functions, in the heat of youth. For instance, by a too early, or excessive use of venery, by taking imprudent and extravagant pains to gratify their passions, and the like : whereto must be added the leaving off

(e) *Boerhaave* tells us that he has seen *gouty* children, and that women get this disease by lying with their *gouty* husbands. See *his prax. med. vol. v. p. 195.*

(f) This may perhaps dispose to the *gout*, as it will to other diseases both of the *acute* and *chronic* kind, but cannot be said in a strict sense to be the sole cause of any one distemper more than another.

off such bodily exercises of a sudden as they had formerly used (whether thro' age or idleness) which served to invigorate the Blood, and strengthen the tone of the solids; whence the strength decays and the concoctions are no longer duly performed, but on the contrary the excrementitious part of the juices, which was formerly expelled by means of such exercises, lies concealed in the vessels to feed the disease. And sometimes the disease hath been encreased by a long continued application to some serious study; whereby the finer and more volatile spirits are called off from their proper function of assisting the concoctions.

18. Again, such as are subject to the *gout*, besides having a voracious appetite in general, chiefly covet all kind of aliment that is hard of digestion, which, when they have eat as plentifully as they ordinarily did when they used exercise, they cannot digest. But this way of living does not occasion the *gout* so often as the excessive use of wine, which destroys the ferments designed for various concoctions, hurts the concoctions themselves, and overcomes and dissipates the natural spirits, by reason of the abundance of adventitious vapours. Now the spirits, which are the instruments of concoction, being weakened, and the blood over-burthen'd with juices, at one and the same time, all the concoctions must needs be depraved, whilst all the *viscera* are so oppressed; whence the spirits that have long been in a declining state, are now quite exhausted. For if this disease proceeded only from a weakness of the spirits, it would equally affect children, women, and persons debilitated by a tedious illness; whereas the strongest and most robust constitutions are chiefly subject to it, but not before abundance of humours are collected in the body thro' the decay and waste of the natural heat and spirits, which in conjunction destroy the vitiated concoctions.

And drinking wine too freely.

19. Again, as each of the causes we have enumerated promotes indigestion, so most of them contribute in some measure to introduce a laxity of the habit and muscles of the body; which makes way for the reception of crude and indigested juices, as often as they are thrown upon the external parts. For when by lying long in the blood they are encreased in bulk, and have gained an ill quality, they at length acquire a putrefying heat,

Hence a laxity of the habit, and muscular system.

and

and, nature being no longer able to subdue them, become a *species*, and fall upon the joints, and by their heat and acrimony occasion exquisite pain in the ligaments and membranes that cover the bones; which being weakened and relaxed, either by age, or intemperance, easily admit them. But this translation of the humours occasioning the *gout*, and forming a *gouty* fit, happens sooner or later, according as these humours are occasionally put in motion.

Bleeding,
sweating,
vomiting,
purging
improper in
the gout.

20. I proceed now to the cure; in treating of which I shall first take notice of such things as are to be omitted. Now, in this disease, if regard be had to the humours, and the indigestion occasioning them, it should seem at first view, that the curative indications should principally tend (1.) to evacuate humours already generated, and (2.) to strengthen the concoction or digestive powers, so as to prevent the accumulation of other humours; these being the usual indications to be answered in most other humoral diseases. But nevertheless in the *gout*, nature seems to have the prerogative to expel peccant matter according to its own method, and throw it off upon the joints, there to be carried off by insensible perspiration. Now there are only three ways proposed of expelling the morbid matter of the *gout*, namely, (1.) *bleeding*, (2.) *purging*, (3.) and *sweating*: but none of these will ever answer the end.

Bleeding,
why improper.

21. (1.) Tho' *bleeding* seems to bid fair for evacuating the humours immediately to be translated, as well as those already seated in the joints; yet it manifestly clashes with that indication which the antecedent cause, *indigestion*, arising from a depravity or paucity of the spirits, demands, which *bleeding* further weakens and diminishes. For this reason *bleeding* is not to be used either by way of preventing an approaching, or easing a present fit, especially in the aged: for tho' the blood that is taken away, generally resembles *pleuritic* or *rheumatic* blood, yet *bleeding* is found to do as much mischief in this disease, as it does good in those. And *bleeding* in the interval, tho' long after the paroxysm, is apt to occasion a fresh fit by the agitation of the blood and juices, which may continue longer, and be attended with more violent symptoms than the former; the strength of the blood being impaired thereby, by means whereof the morbid matter should be powerfully

fully and constantly expelled. This inconvenience always happens from *bleeding* in the beginning of the fit ; and if it be used immediately after the fit, there is great danger (on account of the present weakness of the blood, and nature's not having recovered its former strength, taken away by the disease) of debilitating nature so much by the unseasonable use thereof, as to make way for a *dropfy*. Nevertheless, if the patient be young and over-heated by hard drinking, a vein may be opened in the beginning of the fit ; but if bleeding be always used in the succeeding paroxysms, it will soon render the *gout* inveterate, even in youth, and cause it to spread more universally in a few years than it otherwise would have done in many! (g)

22. (2.) With respect to *vomiting* and *purging*, it should be noted, that as it is a fixt law of nature, and interwoven with the essence of this disease, that the morbid matter thereof ought always to be translated to the joints, *emetics* or *cathartics* will only invite the *gouty* matter back into the blood, which was thrown off by nature upon the extremities ; and hence what ought to be thrown upon the joints, hurries perhaps to some of the *viscera*, and so endangers the life of the patient, who was quite safe before. And this hath often been observed to prove fatal to those who have ordinarily had recourse to *purgatives* by way of prevention, or, which is worse, to ease the pain in the fit ; for when nature is prevented from pursuing her usual, safest, and best method of translating the morbid matter to the joints, and the humours are forced inwards upon the bowels, then,

Why vomiting and purging.

(g) Bleeding in the intervals in plethoric constitutions, is not only advantageous but necessary, and may be done with safety. Where the vessels are already considerably debilitated and relaxed from the manifold returns of the pain, an over-fulness must needs be highly detrimental, as it will put them upon the stretch, and consequently be a means of weakening their tone still more. Besides, it often happens that *gouty* persons have a sharp appetite in the intervals, accompanied with a quick digestion, whence of course they make a copious chyle, and surcharge the vessels, which require therefore to be emptied from time to time by bleeding, and other proper evacuations, that the fluids may have room to circulate more freely, the viscosity thereof be prevented, and the due tone of the vascular system preserv'd.

Dr. Hoffman recommends cupping the bottom of the foot every three months, and says that he has known it highly serviceable in many persons, and found great benefit from it himself. Hoff. oper. tom. ii. p. 346.

then, instead of pain in the joints, which is either slight, or none at all, the patient is almost destroyed by sickness of stomach, gripings, faintings, and a numerous train of irregular symptoms.

23. For my own part, I am abundantly convinced from much experience, that *purgings* either with mild or strong *cathartics* of that kind which are given to purge the joints, proves very prejudicial, whether it be used in the fit to lessen the morbid matter, or in its declension to carry off the remainder, or in a perfect intermission, or healthy state to prevent an approaching fit. For I have learn'd at my own peril, as well as that of others, that purgatives exhibited at any of these junctures, have, instead of doing service, hastened the mischief they were intended to prevent. (1.) *Purgings*, therefore, during the fit, by disturbing nature when she is separating the *gouty* matter and throwing it off upon the joints, does sometimes eminently disturb the spirits, which renders the fit more violent, and likewise much endangers the life of the patient. (2.) *Purgatives* administered at the end of a fit, instead of expelling the remains of the disease, occasion a fresh fit, as severe as the former; and thus the patient being deceived by fruitless hopes, brings those mischiefs upon himself, which he had escaped if the humours had not been exasperated afresh. And this inconvenience I myself often experienced, after having had recourse to medicine to expel what I esteemed the remains of the distemper. (3.) As to *purgings* at certain times in the interval, by way of prevention, tho' it must be owned that there is not so much danger of occasioning a fresh fit, as in the instance just mentioned, the patient in that case not being perfectly recovered, yet, even at this time, it is productive of a fit for the reasons above specified; and tho' perhaps it may not come on immediately, the disease nevertheless will not go off entirely by taking any purge constantly at proper intervals. for I have known some *gouty* persons, who, to recover their health, not only purged spring and autumn, but monthly, and even weekly, and yet not one of them escaped the *gout*, which afflicted them more severely afterwards, and was accompanied with more violent symptoms, than if they had totally forbore medicine. For tho' such *purgings* might carry off a part of the *gouty*

gouty matter, yet, as it does not at all contribute to strengthen concoction, but rather weakens it, and injures nature afresh; it only strikes at one cause, and is by no means adequate to the cure of the distemper.

24. To these observations must be added, that the same paucity of spirits which hurts the concoctions in *gouty* subjects, renders their spirits weak and languid, so that they are soon disturb'd by any cause which violently agitates either the body or mind, and consequently are very volatile and dissipable, as they frequently are in *hysteric* and *hypochondriac* patients. And from this tendency of the spirits to irregular motions, it happens that the *gout* usually follows the slightest evacuation. For the tone of the parts being destroy'd, which the firmness of the spirits, so long as they continue strong, preserves unrelaxed and healthy, the peccant matter moves without interruption; and from this mischief done to the body a fit arises in a short time.

25. But notwithstanding this method is so very pernicious, yet there have been empyrics, who have acquired a great character, by cunningly concealing the cathartic they used in this case. For it must be noted, that whilst the medicine operates, the patient feels no pain at all, or but a slight one; and if a course of *purgatives* can be continued for some days, without the intervention of a recent fit, the present fit will soon go off. But the patient will suffer greatly afterwards, by the sudden tumult occasioned by this agitation of the humours. (b)

26.

(b) Sydenham, says Dr. Cheyne, otherwise a most accurate observer of nature, and a most judicious practitioner, has been the occasion, I think, of a great mistake in the management of the *gout*; by forbidding almost all evacuations either in the fit, or in the intervals, for fear of weakening the constitution. There are two seasons, to wit, spring and fall, when the periodical fits of regular *gouts* commonly happen; which I consider as cardinal and critical discharges, under general and mechanical influences, for purifying the blood, and discharging the *gouty* salts: in which nature is no more to be disturb'd in its operations, (I mean as to purging, for even then a gentle, slow, constant, and uniform perspiration and breathing sweat may be promoted, not only safely, but with great advantage) than in the monthly purgations of the sex. But in light flying touches of the *gout*, out of these seasons, and in the intervals of the fits, gentle, warm, stomachic purges will be an excellent remedy to send these a going, to lessen the fits,

Why sweating is hurtful.

26. (3.) Finally, the carrying off the peccant matter by *sweat*, is manifestly prejudicial, tho' in a less degree, than the above-mentioned evacuations; for tho' it does not repel the morbid matter to the *viscera*, but contrariwise propels it into the habit, it is notwithstanding detrimental for these reasons. (1.) Because, during the interval of the fit, it forces the humours, which are yet crude, and not fitted for a due separation, upon the limbs; and thus occasions a fit before its time, and in opposition to nature. (2.) The promoting sweat in the fit, throws and fixes the *gouty* matter too powerfully upon the part affected, at the same time occasioning intolerable pain; and if there be a greater quantity thereof than can be received by the part affected, it immediately throws it upon some other parts, and thus raises a violent ebullition of the blood and other juices: and if the body abounds considerably with a serous matter generative of the *gout*, an *apoplexy* is hereby endangered.

27. Hence therefore, it is a very dangerous practice both in this and all other diseases, wherein a sweat is raised by art to evacuate the morbid matter and does not flow spontaneously, to force it out too violently, and beyond that degree of concoction, which the humours to be carried off, have spontaneously, acquir'd. The excellent aphorism of *Hippocrates*, intimating that *concocted and not crude matters are to be evacuated*, relates to *sweating* as well as *purging*; (i) as appears manifestly from that sweat which ordinarily terminates the paroxysms of intermittents; which, provided it be moderate and proportioned to the quantity of febrile matter,

fits, and lengthen the intervals. A person out of the pain and inflammation of the fits, and in their intervals, (except his natural disposition to breed another fit) is, to all intentions of medicines, the same as a well person. And all medicines levell'd against other diseases incident to human bodies, may be as safely administered to a *gouty*, (regard being had to his particular constitution) as to any other person. Wherefore, the general and direct methods of relieving the *gout* are, in the fits, a gentle, uniform, continued perspiration, and breathing sweat; in the intervals, labour, or exercise, and gentle, stomachic purges. See his *treatise on the gout*, p. 22, 23.

Some authors commend glysters to be thrown up occasionally in the fit; and certain it is, that if the fever be high, or the body costive, they may be used with safety, and all desirable advantage.

(i) See sect. iii. chap. 3. par. 9.

concocted by the preceding fit, relieves the patient considerably: but in case it be promoted beyond the limits prescribed by nature, by keeping the patient constantly in bed, a continued fever thence arises, and instead of extinguishing the former heat, a new one is kindled. So in the *gout*, the gentle breathing sweat, that generally comes on spontaneously in the morning after each of the small fits, of which, as I have before observed, the cardinal fit is compounded, eases the pain and restlessness, which tormented the patient so much during the night; but contrariwise, if this gentle moisture, which is naturally of short duration, be violently forced, and continued longer than the quantity of the morbid matter concocted by the preceding fit requires, the disease is thereby increased. In this therefore, and all other diseases that I have met with, excepting only the *plague*, it is nature's province, more than the physician's, to excite sweat, as we cannot possibly learn how much matter is already prepared for such a separation, and consequently what method is to be taken in order to promote *sweat*. (i)

28. Since then it evidently appears from what has been delivered, that it is both a fruitless and a pernicious attempt to endeavour to cure the *gout* by evacuating medicines, we are next to enquire what other purpose the curative indications are to be directed to answer. And from a thorough attention to the symptoms above enumerated we learn, that regard must be had to two causes principally in the cure of this disease.

The indigestion and heat of the humours to be principally regarded in the cure.

(1.) The *antecedent* or *primary cause*, or the indigestion of the humours, proceeding from a defect of the natural heat and spirits; (2.) the *containing* or *immediate cause*, or the heat and effervescence of these humours after the putrefaction and sharpness they have acquired by continuing too long in the body, occasioned by the indigestion above-mentioned. Now these causes differ so much from one another, that the medicines which

E e do

(i) A gentle, uniform, continued, breathing sweat, is by many authors recommended to be procured in the fit, on account of its being accompanied with a fever, and experience shews the usefulness of it, by the relief it ordinarily gives; for it abates the fever, purifies the mass of blood, and discharges the *gouty* humour gradually and insensibly. But the medicines exhibited with this view should be of the moderately warm diluting kind, and not too active and heating.

do service in the one, prove pernicious in the other; and hence it is that this disease is so difficult of cure. For at the same time that we endeavour to cure the indigestion by warm medicines, we run the risque on the other hand of encreasing the heat of the humours: and contrariwise, whilst we strive to mitigate the heat and acrimony of the humours by a cooling regimen or medicines we bring on indigestion, the natural heat being already impaired. But here, by the *containing cause*, I do not only mean that which is actually deposited in the joints, and forms the present fit, but that also which still lies concealed in the blood, and is not yet prepared for separation. For all the morbid matter is seldom so entirely expelled by the fit, how lasting and severe soever it be, as to leave no remains of it in the body, after the fit is gone off; so that of course regard is to be had to this cause both in the fit, and during the intervals. But as the expulsion of the *containing cause* is entirely the business of nature, and to be performed according to her own method, since nothing in the mean time can be done to cool the hot and sharp humours, without injuring the digestive powers, unless it be by avoiding a hot regimen and medicines, which inflame the humours; so doubtless the chief curative intention is, after the indigestion is removed, to strengthen the digestive powers, which I shall now treat of; but in such manner however, that I may, in the course of this dissertation, as occasion offers, likewise mention those remedies which tend to mitigate the heat of the humours, and blunt their acrimony.

The chief thing to be done is to strengthen the digestive powers.

This intention best answered by a proper regimen, medicines and exercise.

29. Whatever remedies, therefore, assist nature to perform her functions duly, either (1.) by strengthening the stomach, so that the aliment may be well digested, or (2.) the blood, that it may sufficiently assimilate the chyle received into the mass, or (3.) the solids, so as to enable them the better to change the juices design'd for their nutrition and growth into their proper substance, and (4.) lastly, whatever preserves the secretory vessels, and the emunctories in such a state that the excrementitious parts of the whole system may be carried off in due time and order. These, and all medicines of the same kind, contribute towards answering this intention, and are properly entitled *digestives*, whether they be of the medicinal or dietetic kind.

exercise

exercise, or any other of those things, which are called the fix *non-naturals*.

30. Such medicines in general are those which are moderately heating, bitter, or of a mild pungent taste, inasmuch as they agree well with the stomach, purify the blood, and strengthen the other parts. For instance, the roots of *angelica* and *elecampane*, the leaves of *worm-wood*, the *lesser centory*, *germander*, *ground-pine*, and the like: to which may be added, such as are commonly called *antiscorbutics*, as the roots of *horse-radish*, the leaves of *garden scurvy-grass*, *water-cresses*, and the like. But these acrid and pungent herbs, how agreeable and serviceable soever they may be to the stomach, yet, as they agitate the morbid matter which has long been generated, and increase the heat, are to be used more sparingly than those which by their mild heat and bitterness both strengthen the stomach, and mend the blood.

The medi-
cines enu-
merated.

31. And, in my opinion, a judicious mixture of some kinds of them answers the end of digesting the humours better than any single simple of this class. For tho' whenever we have occasion for a specific virtue of any medicine, it be a true axiom, that *the more simple it is the better it is for the purpose*, yet when a cure is intended to be made by answering a particular indication, every ingredient contributes something towards curing the disease; and in this case, the more simples the medicine contains, the more powerfully it will operate. (k) For this reason various forms of medicines may be elegantly compounded of the ingredients above enumerated, and the rest of the like kind. I give the preference to an electuary made after the manner of *Venice treacle*, because the fermentation of the simples together improves their virtues, and produces a *third substance*, which possesses greater virtues in the mixture, than any single ingredient in the same quantity. But I freely leave the choice of such ingredients, and the forms in which they are to be given to the judicious physician; for I never thought myself obliged to write prescriptions, but rather to note the true curative indications.

Best given
in a com-
pound mix-
ture.

E e 2

Take

(k) Whether a medicine be the better for a mixture of a multiplicity of similar ingredients may in many cases be doubted; but certain it is, that to answer the same end by a few, well chosen, is a much greater proof of the ability of the prescriber.

A digestive powder.

Take of the roots of angelica, sweet flag, master-wort, elecampane, the leaves of wormwood, the lesser centory, white hore-bound, germander, ground-pine, scordium, common calamint, feverfew, wild saxifrage, St John's wort, golden rod, thyme, mint, sage, holy thistle, pennyroyal, southern wood, the flowers of camomile, tansey, lilly of the valley, English saffron, the seeds of treacle mustard, garden scurvy-grass, carraway and juniper berries, of each a sufficient quantity. Let the herbs, flowers, and roots be gather'd when they are in their utmost perfection; dry them in paper bags till they are reducible into fine powder. To six ounces of each well mix'd together, add enough of clarified honey and canary to make the whole into an electuary, of which let the patient take two drams morning and night.

Or for want of this, let the following be used.

A stomachic electuary.

Take of the conserve of garden scurvy-grass, an ounce and half; roman wormwood and orange-peel, of each an ounce; candied angelica and nutmeg, of each half an ounce; Venice treacle, three drams; compound powder of wake-robin, two drams; and with a sufficient quantity of the syrup of oranges, mix them up into an electuary. Let two drams of it be taken twice a-day, with five or six spoonfuls of the following distill'd water after every dose.

An anti-scorbutic distill'd water.

Take of the roots of horse-radish, sliced, three ounces garden-scurvy-grass, twelve handfals; water-creffes brook-lime, sage and mint, of each four handfals the peel of two oranges; two nutmegs bruised; Brunswick beer, or mum, twelve pints; draw off only six pints by the alembic.

Venice treacle a good one in this case, but not so good as the electuary above described.

32. Of all the medicines commonly known Venice treacle is the best for strengthening the digestive faculties; but as it contains many ingredients that over-heat and withall a large quantity of opium, an electuary like that above described may be more commodiously compos'd of the principal warming and strengthening plants. But care must be had to make choice of such simples, as are most agreeable to the patient's palate, because it must be continued a long time, namely, for

the most part of his life. Of all simples the *peruvian bark* is the best ; for a few grains of it taken morning and evening, strengthens and enlivens the blood. (1)

33. And in reality, these, and such-like medicines, which strengthen the blood, and quicken the circulation (provided their heat be not owing to vinous spirits, for reasons hereafter to be given) do most service in this and most other *chronic diseases* ; inasmuch as every disease of this kind is in my opinion to be referred to the same general cause ; namely, *the indigestion of the humours*. *Such medicines serviceable in most chronic diseases.*

34. But as nothing can put this matter in a clearer light than the taking a view of the difference there is between *acute* and *chronic* diseases, it is hoped the reader will not be displeased, if I make a short digression from the present subject. As therefore those diseases are generally deemed *acute*, which soon prove fatal, or are brought to concoction soon ; so those are entitled *chronic* distempers, which either require a long time to come to concoction, or never come to concoction at all. And this appears manifest, both from the nature of the thing, and the terms employ'd to express it ; but the cause of the dissimilitude between these two kinds of diseases lies more concealed, and is not so easily discoverable, I conceive, therefore, it will be worth while to spend some time in a research of this nature ; since a clear and distinct notion of these particulars may greatly contribute towards discovering the genuine indications suited to the cure of these diseases. *Proved from the difference found between acute and chronic diseases.*

35. Now, whether the inmost bowels of the earth, to use this phrase, undergo various alterations, so as to infect the air by the vapours thence arising, which seems very probable to me ; or whether the whole atmosphere be infected by means of an alteration, resulting from a peculiar conjunction of any of the planets ; certain it is, that the air sometimes abounds with such particles as injure the human body : as at another time it becomes impregnated with such particles as *Acute diseases, how cured.*

E e 3

prove

(1) Of the same opinion is Dr. Cheyne : among all the strengtheners of digestions I would recommend, says he, a strong infusion of the *jesuits bark* in generous claret, as being the coolest bitter, the most powerful strengthener of relax'd fibres in the instruments of digestion, and the greatest antidote of the urinous salts, especially if joined with *chalybeates*, and some qualifiers of its mawkish and nauseous taste. See his essay on the gout. p. 24.

prove pernicious to some species of brutes. During this state of the air, as often as we receive into the blood by breathing the poisonous corpuscles which are prejudicial to the body, and contract such epidemic diseases, as such tainted air is apt to produce, nature raises a fever, which is the ordinary instrument it employs to free the blood from any noxious matter therein contained. And these diseases are commonly esteem'd *epidemic diseases*, and are therefore *acute* and *short*, because their motion is so quick and violent. But besides these distempers produced by an external cause, there are others not less *acute*, which proceed from some peculiar inflammation of the blood, and which do not arise from any general cause depending on the air, but from some peculiar irregularity, or indisposition of particular persons. This kind of fevers, which happens in most years, I call *intercurrent* and *sporadic*.

Whence
chronic di-
seases.

36. But *chronic* diseases are of a very different nature from these; for tho' a certain unwholesome air may greatly contribute to their production, yet they do not so immediately proceed from the air, but generally from the indigestion of the humours, the common origin of all these diseases. For when the *stamina vitæ* are much debilitated, and in a manner worn out, either by age, or by remarkable and continued irregularities in the use of the six *non-naturals*, especially with relation to food and drink; or if the secretory vessels be so far weakened, as to be no longer able to perform their appointed functions of cleansing the blood, and carrying off its superfluities: in all these cases a greater quantity of humours being collected in the body, than can be digested by the strength of nature; these, by their long continuance in the vessels, undergo various fermentations and putrefactions, and at length appear in a species, occasioning different diseases, according as they are variously vitiated and depraved. And as these vitiated juices differ from one another, so they fall upon the particular part, that is best fitted to receive them, and there they gradually manifest those numerous symptoms, which ordinarily proceed, partly from the nature of such juices, and partly from the irregular motion excited in the parts affected: both which causes

in conjunction, constitute that irregularity of nature, which is characteriz'd with the name of some disease.

37. Now that most *chronic diseases* chiefly proceed from such an inability of nature to concoct the humours, will manifestly appear, if we reflect that aged persons, whose digestive faculties are impaired, and their spirits, which are the instruments thereof, are wasted by the repeated functions of a long life, are more subject to these diseases than young persons, whose vital warmth is greater, and dissipates those foul humours which are amassed in the body, and whose secretory vessels are possess'd of such a constant natural heat, as may always enable them to perform their functions of purifying the blood, provided they be not burthen'd, and in a manner obstructed by an overfulness of humours. And further, that such an indigestion of the humours is the cause of most *chronic diseases*, is clear from hence, that winter is much more apt to generate them than summer, notwithstanding that some do not actually shew themselves till the decline of winter, tho' the collection of humours whereon they depend, increases the winter throughout, becoming greater by the coldness of the season, debilitating nature, so as to render her less able to perform the functions of the animal oeconomy.

38. Hence it is that such as enjoy a good state of health in summer, do notwithstanding rarely escape those diseases in winter, which they are most subject to; as for instance, the *gout*, *asthma*, *cough*, &c. And hence likewise we learn why travelling into *southern* countries, is so effectual to conquer those diseases, the cure whereof is fruitlessly attempted in a colder climate. The truth of what has been delivered with respect to the general cause of *chronic diseases*, will be still farther confirmed by the remarkable and almost incredible relief obtained by riding on horseback in most *chronic diseases*, but especially in a *consumption*. For this kind of exercise strengthens the digestive powers, whilst it rouses the natural heat by the continual motion of the body, and enables the secretory vessels to perform their function of purifying the blood in a proper manner; whence an amendment of the vitiated digestions must needs follow, and of course a healthy state.

*Eminently
relieved by
riding on
horseback.*

39. From the reasons therefore just alledged, it sufficiently appears that such *warm herbs* do great service, where there is no manifest contra-indication, not only in the *gout*, but in most *chronic* diseases, inasmuch as they procure a warmth like that of summer, even in the midst of winter: tho' if we accustom ourselves to use them in summer, they will more effectually prevent such diseases, as are ordinarily occasioned by the contrary season. And in reality, if we defer, or neglect taking them till the approach of winter, at which time a considerable quantity of humours is amassed, it is to be apprehended it may then be too late to have recourse to this refuge.

Stomachics
when begun,
not to be
discontinued

40. But tho' (as I have already amply shewn) the *gout* is of so peculiar a nature, as to be rendered worse by *cathartics*; yet in most other *chronic* diseases *bleeding* is to be repeated, as there is occasion, and *purging* to be ordered previous to the use of the *strengthening* and *stomachic* remedies here commended: but when the patient has begun to take these, they must be continued without any intermediate evacuations; for it is always to be remembered, that whenever the cure of any disease is attempted by means of strengthening remedies, all kinds of evacuations prove highly pernicious. (m) Lastly, I do not assert that the *stomachic* medicines just enumerated are the most excellent of the kind, but I maintain that whoever can discover the most effectual remedy to answer this intention, is able to do much more service in curing *chronic* diseases than he himself may imagine.

41. But amongst the remarks I proceed to communicate, relating to the cure of the *gout*, this is primarily and chiefly to be attended to, namely, that all *stomachic* or *digestive* remedies, whether they be medicinal, dietetic, or relate to exercise, are not to be en-

(m) This, without doubt, should be understood with some limitation; for it may not only be convenient, but even absolutely necessary to have recourse to gentle evacuants during a course of strengthening remedies, and they may be attended with considerable advantages. Circumstances must decide when and in what manner they are to be given, nor are we to be deterred from making a proper use of them, by a servile deference to any great name. How often, for instance, are they commodiously joined with the bark, steel, and the like medicines, and thus effect what could not be obtained by either separate?

entered upon in a heedless manner but to be persisted, in daily with great exactness. For since the cause in this and most other *chronic* distempers, is become habitual, and in a manner changed into a second nature; it cannot reasonably be imagined, that the cure can be accomplished by means of some slight and momentaneous change made in the blood and juices by any kind of medicine, or regimen, but the whole constitution is to be altered, and the body to be in a manner fram'd anew. For it is otherwise here than in some acute diseases, where a person in full strength and good health is suddenly seiz'd with a fever; whereas in the *gout*, a person by indulging himself in high feeding, hard drinking, neglecting his usual exercise for several years running, and debilitating his constitution by idleness or an immoderate application to study, and other errors of life, does at length, in a manner purposely, injure the various ferments of the body and oppress the animal spirits, which are the principal instruments of digestion, whence the vitiated juices amass'd in the habit, break out as soon as they come to their worst state and do much mischief, relaxing the fleshy parts, and weakening the joints, so that they readily receive the humours thrown upon them. And in this manner a different constitution is formed by degrees, the original natural one being quite destroy'd. And those fits which engross the attention of indiscreet and injudicious physicians are no more in effect than the succession and order of symptoms, resulting from that method which nature ordinarily employs to expel the morbid matter. Hence, therefore, 'tis a fruitless labour to attempt the cure of this disease by using any medicine or regimen occasionally: for since this habit is chiefly founded on and consists in a weakness of all the digestions, and a relaxation of all the parts; both these disorders must be remedied, and the strength of the digestive powers, as well as the tone of the parts restor'd and recover'd by degrees to the former healthy state of the body. But tho' it may seem impossible to compass this end effectually, not only because any particular habit cannot easily be changed into a contrary one, but also, because old age, which ordinarily accompanies this disease, greatly obstructs this design; yet the cure is to be attempted as far as the strength and age of the

patient will permit, who will have the *gout* more or less severely, in proportion to his advancement in years. (n)

Digestive remedies to be us'd chiefly in the intervals of the gout.

42. Furthermore it is to be observed, that digestive remedies, either of the medicinal, or dietetic kind, are to be used chiefly in the intervals of the *gout*, and at as great a distance as may be from the subsequent fit. For age obstructs the cure so much, that the strengthening the digestive powers, the recovering the debilitated ferments of the body, and restoring the blood and *viscera* to their due healthy state, cannot be speedily accomplish'd, and requires a continued use of medicine.

A suitable regimen to be join'd with them.

43. But tho' these and the like remedies do service, yet they are not able alone to answer this intention of strengthening; but need the joint assistance of such things as do not properly belong to medicine: it being an error to imagine that this, or any other *chronic* disease, can be cured by medicine only. (1.) Therefore, moderation in eating and drinking is to be observed, so as on the one hand to avoid taking in more aliment than the stomach can conveniently digest, and of course increasing the disease thereby, and on the other hand defrauding the parts, by immoderate abstinence, of the degree of nourishment requisite to keep up the strength, which will weaken them still more: either of these extremes being equally prejudicial, as I have often experienc'd both in myself

(n) This advice is founded on good sense, and the nature of things; for it would be preposterous to expect an inveterate and deeply-rooted disease should immediately give way to medicine; but if it appears to be relieved, it ought to encourage the patient to persevere in the course he is in, as it must needs require a length of time for medicines to communicate their effects to the blood and juices, so as to change them from a distemper'd to a sound state, and restore the solids to their due tone and motion. Is it likely a disease, which has perhaps been coming on several years, should go off in a few weeks? Whatever, therefore, be the ability of the physician, if the distemper be of long standing, it is impossible the patient should receive a cure in a short time; because, in such a case there would be no proportion between the beginning, progress, declension, and termination of the disorder; whence it follows, that to render the attempt successful he must comply with the method prescribed, and pursue it with cheerfulness, courage and resolution to the end; freedom from pain, and the vigorous exercise of the rational faculties being an abundant recompense for a tedious and mortifying restraint, and health a valuable purchase at any rate.

self and others. (2.) As to the quality of the food, tho' whatever is easy of digestion, singly considered, deserves the preference, yet regard must be had to the palate and appetite, because it is frequently found that what the stomach earnestly covets, tho' of difficult digestion does, nevertheless, digest better, than what is esteemed of easier digestion, in case the stomach nau-
seates it ; but for this reason indigestible aliment should be used more sparingly. (3.) I am of opinion the patient ought to eat only of one dish at a meal, because feeding on different sorts of flesh injures the stomach more than eating an equal quantity of any one kind : but excepting flesh he may eat other things at pleasure, provided they be not sharp, salt, or spiced ; because, tho' such food does not hurt digestion, it nevertheless does mischief by agitating the morbid matter.

44. As to the times of eating, only dining is necessary ; for as the night should seem peculiarly designed to digest the humours, it would be wrong to waste that time in digesting the aliment. For this reason *gouty* persons should forbear suppers, but they may drink a large draught of *small beer*, as being generally subject to *the stone in the kidneys* ; the growth whereof is considerably obstructed by drinking such a liquor at this time, as it cools and cleanses the kidneys. (o)

Only one meal a day necessary.

45. A *milk diet*, or the drinking milk, either as it comes from the cow, or boiled, without adding any thing to it, except perhaps a piece of bread once a day, hath been used these twenty years past, and hath done more service in abundance of *gouty* subjects, whilst they persisted in it exactly, than all other kinds of remedies. But upon quitting it, and returning to the ordinary way of living of healthy persons, tho' they used the mildest and slenderest diet, the *gout* returned with much more violence than ever ; for as this regimen weakens the constitution, the patient cannot so well struggle with the distemper, whence of course it proves more dangerous and lasting. Whoever, therefore, intends to begin and go on with this regimen, ought before-hand

A milk diet more hurtful than serviceable.

(o) This may perhaps chill some stomachs, and breed acidities, whence a draught of small white wine whey, drank warm, or something of the like kind, should seem a much better liquor for this purpose.

hand to consider maturely, whether he be able to persevere in it for life, which perhaps he will find too much for him, tho' he should be a person of great resolution. For I knew a nobleman, who, after living a whole year on milk only with much pleasure, during which time he had one or more motions every day, was constrained to leave it off, because he grew costive on a sudden, the temper of his body altered, and his stomach at length nauseated *milk*, tho' he had still a liking to it. Again, it is observable that some *hypochondriac* persons of a gross habit of body, or those who have been long used to drink spirituous liquors freely, cannot bear milk. And further, the short and fleeting benefit which those who can bear milk receive from this regimen, is not only derivable from its exceeding simplicity, whence I doubt not but water-gruel may have the same effect, provided the stomach will bear it; but from its rendering the blood softer and smoother, by blunting the sharp particles contained in the mass: and moreover, which I esteem the principal thing, *milk* being an aliment that is absolutely unfit for grown persons, represses that tumultuary motion of the humours which occasions the *gout*; and for this reason the few with whom it agrees, escape this disease, so long as they live upon *milk* only, but no longer. For as it runs directly counter to the original cause of the *gout*, which is the debility of the digestions and ferments, it does much more mischief in this respect than benefit in the other. And for want of sufficient attention to this particular, some inconsiderate persons have fallen into gross and manifestly fatal errors; having, by attempting to attack the containing cause of the disease, namely, the heat and acrimony of the humours, destroyed the digestions, and all the natural functions. (p)

46. As

(p) Much has been said for and against a *milk-diet* in this and other *chronic* diseases by practical writers, so that it must be left to further experience to determine the affair. It were to be wished, that both parties had communicated their observations of the good or ill effects of it with candour and accuracy, enumerating the circumstances under which it was given, and what happened during the course, and thus we might by this time have learnt the reasons of its success or failure, and accordingly been able to determine with some sort of certainty in what subjects it is to be used, and with what cautions, so as to answer the desired end; and,

46. As to liquors, those are best, in my opinion, which are weaker than wine, and not so weak as water; such as our *London* small-beer hop'd, or unhop'd, extremes on either hand being pernicious. For, (1.) as to *wine*, tho' the common proverb intimates that whether a person does, or does not drink wine, he will have the *gout*; yet it is certain and confirmed by the experience of abundance of *gouty* patients, that wine is in fact detrimental. For tho' it may be supposed to do service by strengthening the digestive powers, the weakness whereof I have long look'd upon as the antecedent or *primary* cause of the *gout*; yet, with respect to the containing cause thereof, it must be deemed wholly pernicious, because it inflames and agitates the humours, which feed the disease. Neither do we grant that *wine* used by way of common drink helps digestion, but rather assert, that it destroys it unless in such as have drank it for a long time. For tho' wine may in passing thro' the vessels, communicate some heat to the parts, yet it certainly depraves the ferments of the body and wastes the natural spirits: and hence, I conceive, it is, that great drinkers generally die of the *gout*, *palsy*, *dropsey*, and other cold diseases. Furthermore, the continued and immoderate use of wine relaxes and enervates the body, rendering it like the bodies of women; whereas moderately heating liquors strengthen the tone of the parts; whence such as have always drank small li-

Small-beer
the best li-
quor in the
gout.

Wine con-
demned.

quors and, on the contrary, where it is absolutely improper, and likely to do mischief.

Perhaps more have been hurt than reliev'd by it, for want of this kind of experimental knowledge. In general, it is observed to weaken the digestive powers, and consequently impoverish the blood and juices, whence proceed troublesome inflations of the stomach, obstructions of the *viscera*, a paucity and lowness of spirits, and abundance of *hypochondriac* symptoms, especially in aged and weak persons, which frequently prove as obstinate, and more afflicting than the original disorder. Besides the *gout* may by this means be repelled, and fix'd upon some of the internal parts, for want of sufficient strength in the constitution to throw it upon the extremities, which is always accompanied with great danger, and doubtless has prov'd fatal in many cases. Or otherwise, it may only tend to keep off the *gout* for a time, and, by debilitating nature in a great degree, render the patient less able to bear up under it for the remainder of life. In reality, I fear it will be found only a *palliative* cure at best; so that it deserves to be well considered, whether in order to obtain a temporary relief, it be worth running the hazard of the dangerous consequences often attending it.

quors are rarely afflicted with the *gout*. It must further be noted, that those are chiefly subject to this disease, who, tho' they have naturally a weak digestion, do, notwithstanding, receive too much nourishment from a certain richness of the blood, and have their bulk encreased by a kind of indigested matter, instead of a solid, wholsome substance. And the use of wine adds to this richness of the blood, and so not only amasses a new collection of matter, but also actually occasions the disease, by stirring up the cause of it, which had long lain concealed and inactive. Again, as the blood of *gouty* subjects nearly resembles that which is taken away in a *pleurisy*, and other inflammatory diseases, it is absurd to inflame it more with spirituous liquors. And it is as dangerous on the contrary to have recourse to over-cooling liquors; which, by utterly destroying both the digestions and natural heat, do more mischief, not occasioning pain, as wine doth, but death itself; as experience shews in those persons, who having used themselves to drink wine freely from their youth upwards to old age, and quitted it of a sudden for small liquors, have soon destroyed themselves thereby. (q)

Water bad
for the aged,
but may be safely
drank by
young persons.

47. *Gouty* persons should therefore observe it as a rule in this particular, to drink such liquors as will not inebriate, if drank in a larger quantity, or injure the stomach by their chillness. Of this kind, as I before hinted, is our *small beer*; and in other countries a similar liquor may be made by diluting wine well with water. As to *water* alone, I esteem it crude and pernicious, and have found it so to my cost; but young persons may drink it with safety, and it is at this day the common drink of the greatest part of mankind, who are happier in their poverty, than we are with all our luxury and abundance. This is confirm'd by the great multitude of diseases with which we are afflicted upon this account, as the *stone*, *gout*, *apoplexy*, *palsy*, &c. besides the injury done to the mind, in being forcibly acted upon contrary to its natural rectitude, by the disturbance which the preternatural spirits of such li-

(q) If it be a fault to live too low in persons subject to the *gout*, as experience abundantly manifests, it should seem proper and even necessary to allow a moderate use of wine, in such as are advanced in years, have cold stomachs, or few spirits.

liquors, together with the animal spirits, which form thought, occasion, by volatilizing it too much, and suggesting vain and idle notions, instead of solid and weighty reasonings, and thus at length rendering us drolls and buffoons instead of wise men; between which the difference is almost as great, as between a substance and a shadow.----But enough of this.

48. But tho' a person who has the *gout* mildly and only at intervals, need only use *small-beer*, or *wine* diluted with water; this degree of the disease not requiring a stricter regimen; yet when the whole substance of the body is in a manner degenerated into the *gout*, it cannot be conquered without a total abstinence from all kinds of fermented liquors, how small and soft soever they be; inasmuch as all liquors of this kind contain a pungent spirit, with some degree of acrimony; and, what is worse, being possess'd of a ferment, they dispose the humours to a perpetual fermentation, in the same manner as yeast added to malt-liquors communicates its fermenting quality to the whole liquor. For this reason a *diet-drink* is to be ordered for common drink, to be made of those ingredients which are commonly known and used for this purpose; but it must not be too strong, because in that case it will inflame the humours as much as wine, neither, on the contrary, must it be so small as to injure the natural functions by over-cooling. And this kind of drink, provided it be made of such ingredients as the patient most likes, tho' it may occasion some loathing for the first week or fortnight, does nevertheless prove as agreeable afterwards, as any other liquors he has been used to drink. It will likewise quicken the appetite, and render it more natural than it used to be with fermented liquors; and will be attended with this further convenience, that whoever uses it for his common drink, may indulge more freely in other kinds of diet, than when he drank wine, or beer: for the errors in point of diet, which it is hardly possible to avoid entirely, will be in some measure corrected and amended thereby. But the principal benefit derivable from it, is its being preventive of the *stone*, which is the general attendant of the *gout*; as sharp and attenuating liquors both contribute to breed the *stone*, and occasion a fit thereof. I prefer the following decoction for its agreeable colour and taste.

An inveterate gout incurable without refraining from all kinds of fermented liquors.

A diet-drink commended.

Take

*A dietetic
concoction.*

Take of *sarsaparilla*, six ounces; *sassafras* wood, china root and the shavings of hartshorn, each two ounces; liquorise-root, an ounce; boil them together in two gallons of spring-water for half an hour; afterwards infuse them upon hot ashes close cover'd for twelve hours; then boil them till a third part of the liquor is exhale'd; and as soon as it be taken off the fire, infuse therein half an ounce of anniseeds for two hours; lastly, strain it off, and let it rest, till it becomes clear, and put it up into bottles for use. (r)

*When to be
entered up-
on.*

49. 'Tis properest to begin with this decoction, immediately after the fit of the gout is gone off, and it must be continued, both in the fit and the intervals, during the remainder of life. For it is not sufficient at a time when the disease actually rages to study for new medicines, as nature, whilst the humours are in such commotion and disturbance, cannot well bear the exchange of fermented liquors, of an active and spirituous quality, for such as are small and without spirit. At the same time the above-mentioned electuary must be used, taking it in like manner, both in the fit and the intervals, for the warmth of this will in some measure correct the smallness of the diet-drink, as it will communicate a due degree of heat to the blood and viscera, without that agitation which is generally occasioned by the heat of fermented liquors. (s)

*Arguments
in favour of
a total ab-
stinence
from wine
and fer-
mented li-
quors.*

50. If it be objected, that a total abstinence from wine and other fermented liquors would render life in a manner insupportable, I answer, it must be considered, whether it be not much worse to be tortured dai-
ly

(r) *Sarsaparilla* is sudorific, and divides and attenuates gross and viscous humours, whence it comes to be accounted a *specific* in the *gout*, *palsy*, and other inveterate *chronic* disorders.

But Dr. *Cheyne* observes, that its principal virtue lies in the bark: that which I would particularly recommend here, says he, is, a weak decoction of the BARK of *sarsa* root (in the BARK the virtues of the plants chiefly consist) for being replenished with most part of, if not all the juice-circulating vessels, it contains all its salts, and most active parts; and being spongy and tender, it is thereby more easily digested: and where roots are most in use, the BARK of the root is more eminently useful, for the reasons assigned: as also because towards the end of the *autumn*, when roots are gathered, the cold has already driven the juices into their BARK. See his essay on the gout. p. 42.

(s) See above par. 31.

ly by the pain accompanying an inveterate *gout*, (for when it is gentle there is no need of so strict a regimen) than to be confined to this decoction; which, if the patient continues, he may indulge himself in most other eatables; not to repeat now, that this drink, like all other things, grows pleasant by custom. Doubtless, whoever hath had this disease, supposing him not void of reason, will not hesitate at all to which to give the preference.

51. But notwithstanding, if the patient, either (1.) from a long continued and immoderate use of spirituous liquors; (2.) from age; or lastly, (3.) from great weakness, cannot digest his food, without wine, or some other fermented liquor; 'tis certainly dangerous for him to leave off wine on a sudden; an error that has in reality destroyed abundance of people. Such a person, therefore, in my opinion, should either not use the *dietetic apozem* above prescribed; or, if he be resolved to take it, should accustom himself to it by degrees, (drinking a glass of wine for some time at meals) and rather by way of medicine than diet, till it becomes more familiar to him. But *Spanish* wine is to be preferr'd here to *Rhenish*, or *French* wine; these last being apt to exasperate the humours, and encrease the morbid matter, notwithstanding they are very grateful to the stomach. To which we may add, that as they are almost as crude and indigested as our cyder, they are consequently not so warm and cardiac, as the case demands. And these particulars shall suffice concerning the diet of *gouty* persons.

If wine be
necessary,
Spanish
wine is best.

52. There is another caution to be inculcated, which, tho' it may seem trifling, is of great moment, both in digesting the *gouty* matter during the fit, and preventing the generation thereof in the intervals; and that is going to bed early, especially in winter. For, next to bleeding and purging, nothing impairs the strength more than sitting up late a-nights; which every valetudinarian can affirm from his own experience, provided he has only carefully observed how much more vigorous and chearful he rose in the morning when he went to bed early, and how languid and faint he has found himself after sitting up late. And tho' there should seem to be no difference, betwixt going to bed earlier or later, provided a person lies in bed the

Going to
bed early in
winter re-
commended

same hours ; as for instance, whether he goes to bed at nine and rises at five, or at eleven and rises at seven ; it is not an indifferent matter, and, I conceive, for this reason principally, namely, that in the day the spirits are dissipated, either by exercises of the body or mind, which are so weak, in sickly persons, that they require the assistance of sleep earlier in the evening ; and, as the approach of night occasions a kind of relaxation of the animal œconomy, which was preserved in the day by the heat of the sun, the heat of the bed becomes necessary to supply the place of the sun, especially during the winter season. But the spirits being refreshed and invigorated in the morning by the preceding night's sleep, together with the warmth of the bed, and the ensuing day likewise strengthening the tone of the parts still more, the rising early at this time, tho' it may take an hour or two from the morning sleep, hurts the constitution less than sitting up an hour or two later in the evening. This being the case, I would advise such as are subject to the *gout* to go early to bed, especially in winter, and to rise betimes in the morning ; tho' their having had less sleep than usual may incline them to lie longer, in order to get it up. For the sleep which is got in the morning will rob them of as much the ensuing night ; and thus at length, by doing violence to nature, and despising its wise lessons, the night may be preposterously turned into day, and the day into night.

*The mind to
be kept easy.*

53. The patient must likewise use his utmost endeavour to keep his mind easy, as all unbounded appetites and inordinate passions eminently tend to dissolve the texture of the spirits, which are the instruments of digestion, and so of course encrease the *gout*. He should, therefore, wisely reflect on his mortality, and not vainly imagine he is to escape the evils that are necessarily annexed to this state. For, whether any affliction of mind befalls him thro' his own fault, or that of others, certain it is that he will never be able to prescribe laws to the world, which has not always obey'd any single person hitherto, how powerful and wise soever he hath been ; nor will every thing always answer any one's expectations so exactly as he may have promised himself, but whilst he is studying how to regulate his affairs, of a sudden he becomes an example
of

of human frailty, and foolishly deprives himself of the transitory enjoyments of life. Too much application to study and business is likewise equally pernicious ; for as this disease is oftener accompanied with melancholy than any other, such as are subject to it ordinarily fatigue and oppress the spirits to that degree, by long and intense thought, without the artificial help of reading, that the body cannot long preserve itself in a healthy state : and hence I conceive it is, that few fools have had the *gout*.

54. But nothing so effectually prevents the indigestion of the humours, (which I esteem the principal cause of the *gout*) and consequently strengthens the fluids and solids, as *exercise*. It must, however be observed, as I have already mentioned, that as there is more necessity for making a thorough change in the constitution in this than in any other *chronic* disease, so exercise, unless it be used daily, will do no service ; for if it be intermitted at times, it will avail little towards changing the constitution, now reduced to a languishing and effeminate condition by idleness and indulgence, and may perhaps do mischief by causing a fit, after leaving it off for a considerable space of time. But exercise should be moderate, because the contrary in aged persons, who are chiefly subject to the *gout*, wastes the spirits too much, and consequently hurts the digestive faculties ; which are strengthened by continued and gentle exercise. And tho' this may not be relished by one, who besides old age, inability to motion, and slothfulness, which are natural in this disease, is likewise tormented with pain, yet, if exercise be committed, all the remedies which have been hitherto discovered will not at all avail. And as the intervals between the fits cannot be long, without constant exercise ; so the patient will likewise be more subject to the *stone* ; which is a more dangerous and painful disease than the *gout*.

*Exercise
amirable
in the gout.*

55. To these we subjoin another momentuous particular, namely, that the chalky concretions are considerably encreased in the joints, and especially in the fingers by long inaction ; so that at length these parts quite lose their motion. For however positively some may assert, that the matter of these concretions is only the *tartar* of the blood translated to the joints ; it

*The chalky
concretions
encrease
without ex-
ercise.*

will nevertheless readily appear, upon considering the matter with little more attention, that when a large quantity of indigested *gouty* matter falls upon some of the joints, and occasions a lasting swelling of the neighbouring parts, it happens at length partly from their assimilating property being destroyed, and partly from the obstruction caused therein by this sluggish humour, that this matter is generated ; which is changed into this kind of substance by the heat and pain of the joint, and encreased every day in bulk, converting the skin and flesh of the joint into its own nature, and may be got out with a needle, and resembles *chalk*, *crabs eyes*, or some similar substance. But I have experienced in my own particular, that not only the generation of these concretions may be prevented by daily and long continued exercise, which duly distributes the *gouty* humours throughout the whole body, that otherwise readily attack a particular part ; but it also dissolves old and indurated concretions, provided they be not come to such a degree of hardness, as to change the external skin into their substance.

Riding on
horseback
the best
kind of ex-
ercise.

56. As to the kind of exercise, *riding on horseback* is certainly the best, provided it be not contra-indicated by age, or the *stone*: and indeed I have often thought, if a person was possess'd of as effectual a remedy as exercise is in this and most *chronic* diseases, and had the art likewise of concealing it, he might easily raise a considerable fortune. But if riding on horseback cannot be used, frequent riding in a coach nearly answers the same end ; and in this respect at least, the generality of *gouty* persons have no cause for complaint, because their riches, which excited them to indulge those excesses that occasioned the disease, enable them to keep a coach, in which they may take the air, when they cannot ride on horseback. It must be noted, however, that a wholesome air is vastly preferable to an unwholesome air for this purpose ; thus the country is better than the town, where the air is full of vapours that exhale from the shops of different mechanics, and render'd still denser by the closeness of the buildings, as it is in *London*, which is esteemed the largest city in the universe. But the great difference there is between using exercise in the country, or in town, a *gouty* person will soon find upon trial.

57. With

57. With respect to *venery*, if the *gouty* patient be in years, as he is unprovided now with a sufficient share of spirits to promote the digestions, and his joints and the neighbouring parts are consequently too much debilitated and relaxed, without any assistance from this destructive quarter; in this case, I say, it is as imprudent for such a one, in my opinion, to indulge those pleasures, as it would be for a person, after having engaged to go a long journey, to spend all his stock of provisions before setting out. Moreover, besides the mischief he does himself for want of restraining the languid inclinations of declining age, he loses the great privilege of enjoying that exquisite satisfaction, which by the particular indulgence of nature is reserved for the aged only, who, towards the period of their lives, are freed from the violence of those passions, which, like so many savage beasts, prey'd upon them perpetually in youth: the gratification of them being by no means equivalent for the long train of evils, which either accompany, or follow it.----And let this suffice for the regimen.

Venery to be refrained.

58. But tho' a *gouty* person by carefully observing these rules, relating to diet, and the rest of the *non-naturals*, may prevent violent fits, and so strengthen the blood and solid parts, as to free himself from that multitude of evils, which render the disease not only intolerable, but in the end fatal; yet, notwithstanding, after some intervals, he will sometimes be seized with the *gout*, especially towards the close of winter. For tho' in the summer season, whilst the tone and strength of the blood are amended and preserved in that state by the heat of the sun, and perspiration goes on in a proper manner, the digestions must needs be much better performed than in winter; yet, as the blood is weaken'd, and perspiration obstructed upon the approach of this season, there must needs be a copious indigested matter amass'd, which at length, by its long continuance in the habit, will form a *species*, manifesting itself by proper symptoms, and giving a fit upon the first occasion, either by the humours being put into motion by the nearer approach of the sun, the use of wine, violent exercise, or any other apparent cause.

The gout not perfectly curable by the method above specified.

The cure to
be attempt-
ed only in
in the in-
tervals of
the fit.

59. 'Tis clear from what has been delivered, that whoever undertakes the cure of this disease, must endeavour to make a thorough change of his habit of body, and restore it to its former constitution, as far as age and other circumstances will permit; and this must be attempted only in the intervals between the fits. For when the morbid matter is not only generated, but already thrown upon the joints; it will be too late to endeavour to change it, or to expel it any other way; since it must be expelled by that method only which nature points out, and the business is to be left entirely to her management. This practice obtains in the paroxysms of *intermittents*; which, for the same reason, we do not attempt to remove till the heat be over. For it is equally absurd to be solicitous to take off the heat, thirst, restlessness, and other symptoms of these fevers, as to think the *gout* is to be cured by endeavouring only to abate the symptoms, whereas the cure is by this means obstructed and prolonged. For the more the pain is eased, the more the concoction of the humours is prevented; and in the same degree the lameness is relieved, and the expulsion of the morbid matter is check'd. Again, the more the violence of the fit is suppress'd, the longer it will last, and the shorter likewise the interval will be between the fits, and less free from every degree of the symptoms accompanying this disease; which will be acknowledged by any person who has attentively considered what we have delivered above, in our history of this disease.

A slender
diet to be
used in the
beginning
of the fit.

60. But tho' nothing considerable must be attempted in the fit, excepting only that those symptoms are to be relieved which an improper method of cure sometimes occasions; yet, as this disease is unanimously held to arise from a plenitude of humours, it may not perhaps be amiss for the patient to forbear flesh for a few days in the beginning of the fit, and instead of it to use water gruel, or some similar aliment; for such a slender diet will greatly contribute towards lessening the quantity of the morbid matter, and give nature an opportunity of digesting it sooner. But as constitutions differ considerably, insomuch that some persons cannot bear to abstain from flesh without being immediately seized with a disturbance of the spirits, faintings, and other symptoms of the *hysterical* kind; such there-
fore

fore will receive hurt by refraining from flesh any longer than the stomach is set against it, which for the most part is only the first or second day of those particular fits, all which joined together constitute the whole fit, as we have intimated above. But whether the patient eats flesh sooner, or later, he must be equally cautious both of eating more during the fit than is requisite to support nature, and of the quality of the food. For great care should be had to guard against every error, either in the quantity or quality of the diet, both solids and liquids, even in the intervals of the fit, and especially in the fit itself. And further, no little regard is to be had in the intervals to the rest of the *non-naturals*, of which we have discoursed largely above; and tho' the pain and great inability to motion may seem to contra-indicate exercise, which I have chiefly extolled in this distemper, the labour must nevertheless be undertaken; for tho' the patient may think himself utterly unable to bear to be carried into a coach in the beginning of the fit, and much more so to abide the motion of it; yet, upon trial, he will soon find himself more easy from such a motion, than he is at home in his chair. Again, if this kind of exercise be used morning and afternoon for some hours, another advantage attends it, namely, it causes him to rest a great part of the night, which he could not do when he kept constantly within doors; for very moderate exercise fatigues a *gouty* person so much, that he falls asleep. Besides, this kind of exercise is in some degree preventive of the *stone*, which an idle and sedentary life generally occasions. But the principal advantage derivable from the constant use of exercise, is the preventing the loss of motion in the limbs, which seizes several persons after the first or second long fit, occasioned by the contraction of the tendons of the hams and heels; for when the pain has been so violent that they have lain still a long time, not caring to stretch out their legs when it has attack'd the knees, they at length lose the use of their legs and feet for the remainder of life, both during the intervals, and in the fits, which nevertheless they do not escape. Again, in aged persons, whose concoctions are considerably vitiated, and who, thro' the long continuance of the disease, have the substance of their bodies in a manner changed

changed into the *gout*, it is not to be expected that the disease can ever be brought to digestion without exercise; for when it exceeds the natural strength, they frequently perish by faintings and sickness, occasioned by the copious morbid indigestible matter; which cannot be assimilated, and destroys them like poison.

*Exercise not
to be used
in the be-
ginning of
a very se-
vere fit.*

61. But notwithstanding what has been said of the usefulness of exercise in the paroxysms of the *gout*, yet, if the fit be so violent as to sink the patient in the beginning of it, (which happens chiefly in those subjects in whom the *gout* is at the height, and hath continued in that state for many years) and confine him to his room, it will likewise be proper for him to keep his bed a few days, till the pain abates, as the warmth thereof will in some measure supply the want of exercise; for lying constantly in bed digests the morbid matter more effectually in a few days, than sitting up does in many, especially in the infancy of the disease, provided that the patient can forbear flesh without faintings, and other bad symptoms, and be contented only with water-gruel, small-bear, and the like. But it is well worth noting, that if the *gout* be inveterate, and disposes the patient to faintings, gripings, a looseness, and the like symptoms, he is in great danger of being destroyed by one of these fits, unless he uses exercise, in a free and open air: for abundance of *gouty* persons have been carried off by these symptoms, which they have been subject to from being confined within doors, and especially in bed, who had lived longer if they would have undergone the fatigue of riding in a coach a great part of the day. For tho' a person, who is afflicted only with a pain of his limbs, may keep his room; yet another, who instead of violent pain, is troubled with sickness, and the other symptoms above enumerated, cannot do the same without endangering his life. And, in effect, it is well for the patient, that there is no great need of motion, or exercise, as long as the pain continues so severe, that he cannot bear it; his life being secured by the pain, which is the sharpest remedy in nature.

62. But

62. But as to the symptoms of the *gout* ; we are to relieve those which threaten life ; the most frequent of which are the weakness and faintness of the stomach, with gripings, as if occasioned by wind ; and these happen either to those who have had the *gout* many years ; or those, who, tho' they have not had it long, have nevertheless brought it on too hastily by quitting spirituous liquors of a sudden, for thin and very cooling liquors, or by applying repelling plaisters and other cooling topics to the parts affected, to ease the pain ; whence the morbid matter, which should have been deposited in the joints, is translated to the *viscera*. I have tried several remedies in my fits of late years to relieve these symptoms ; but nothing did me so much service as a small draught of *canary*, taken occasionally, as the sickness and faintness required. Neither red *French wine*, *Venice treacle*, or any other of the cardiacs I am hitherto acquainted with, is so efficacious. But we are not to imagine that *canary*, or any other cordial, can wholly secure the patient without the use of exercise. (t)

The dangerous symptoms to be relieved.

63. But if some violent symptom comes on suddenly, from the striking in of the *gouty* matter, and threatens death, we are not to trust to the wine, or exercise above commended ; but here, provided only the natural or vital parts, and not the head, be affected, we must have immediate recourse to *laudanum*, exhibiting twenty drops of it in a small draught of *plague water*, and the patient must compose himself to rest in bed. (u)

The striking in of the gout, how remedied.

64. But

(t) The *gout* in the stomach, accompanied with a high fever, and frequent violent reachings, requires bleeding and vomiting, gentle purging with *tincture of rhubarb*, *hiera picra*, *diambra*, and *spirit of lavender*, warm stomachics, and perspiratives, as *camomile flowers*, *virginian snake root*, *powder of diambra*, *camphire*, *contrayerva root*, *zedairy*, *ginger*, *galengal*, *flowers of sal ammoniac*, *volatile salts of hartshorn and amber*, *Sir Walter Raleigh's cordial*, *mithridate*, and the like, spirituous cordials, and strong wines, blistering the arms and legs, the application of stimulating plaisters to the feet, an aromatic fomentation to the part, and the injection of oily glysters, along with a warm restorative diet.

A large glass of pure brandy has sometimes removed it, when other medicines had failed.

(u) The case may be so circumstanced, as to render it dangerous to have recourse to *laudanum* immediately, so that this direction seems to be a little too loose and general. Neither is it easy

*A looseness
in the gout
best carried
off by sweat.*

64. But if the *gouty* matter occasions a *looseness* for want of being translated to the limbs, provided it be not the crisis of a particular fit, and yields not to *laudanum* and exercise of all kinds, (for this is to be tried first in the cure of a *looseness*) but continues, attended with sickness, gripings, and the like symptoms, the only remedy I know in this case, is to raise a sweat by a suitable method and medicines; and if this be done every morning and night for two or three days running, keeping it up two or three hours at a time, it generally checks the looseness, and forces the morbid matter to the limbs. To this method I owe my recovery from this disease some years since (which I had imprudently occasioned by drinking cold water for my common drink) after having used cardiacs and astringents of various kinds to no purpose. (w)

*A translation of the
gouty matter to the
lungs how
to be taken
off.*

65. There is another symptom which I have often seen, tho' it is not so common, namely, a translation of the peccant matter to the lungs; by a cough in the winter season, occasioned by taking cold in the fit, which by degrees invites the matter to those parts, the joints the mean while being in great part, or totally freed from the pain and swelling from the translation of the morbid matter to another part. In this single case, the curative indication is not to be levell'd at the *gout*, but this symptom is to be treated like a true *peripneumony*; namely, by repeated bleeding, and cooling and inraffating medicines and regimen, as the blood that is taken away, especially in this symptom, exactly resembles that of pleuritic persons. The patient likewise should be gently purged in the intervals of bleeding, to carry off the matter that is lodged in the lungs. But sweating, how effectual soever it may

easy to lay down such rules for the treatment of an internal *gout*, or any other disorder, as may not admit of variation; the indications therefore are best taken from the symptoms, which differ exceedingly, according as it attacks various parts, and persons of different constitutions, and therefore require very different management. In general, however, some sort of evacuations should be made before exhibiting opiates, which are rather to be the last refuge than the leading medicine.

(w) The *gout* in the bowels is to be treated nearly in the same manner, as when it attacks the stomach, only having a particular regard to the looseness, which requires a freer use of *rhubarb*, joined with moderate *astringents* and a small quantity of *opium* or *laudanum*, than in the former case.

may be in forcing the morbid matter upon the limbs, proves detrimental in this case, by hardening the matter that is driven upon the lungs ; whence proceeds small abscesses, and in the end certain death. (x)

66. It is further to be noted, that most gouty persons, after the disease has been of long standing, become subject to the *stone in the kidneys*, and are generally seized with *nephritic pains*, either at the height, or more frequently at the declension of the cardinal fit, which are very severe, and weaken the patient considerably, who was but too much debilitated and exhausted by the preceding distemper. In this case, omitting all other remedies, let him immediately drink a gallon of posset drink, in which two ounces of marshmallows roots have been boiled, and inject the following glyster.

Nephritic
pains during
the gout,
how miti-
gated.

Take of the roots of marshmallows and white lillies, of each an ounce ; the leaves of mallows, pellitory of the wall, bears breech, and camomile flowers, of each one handful ; linseed and fenugreek seed, of each half an ounce ; boil them together in a sufficient quantity of water to a pint and half ; dissolve in the strained liquor brown sugar, and syrup of marshmallows, of each two ounces : mix the whole for a glyster.

An emolli-
ent glyster.

As soon as the posset drink is ejected by vomit, and the glyster come away, exhibit twenty five drops of liquid laudanum, or fifteen grains of *Matthew's pills*. (y)

67. If outward applications be enquir'd after to ease the pain in the *gout*, I know of none, (tho' I have tried abundance both in myself and others) besides *coolers* and *repellents*, which I have already shewn to be unsafe. And I scruple not to affirm from a long course of experience, that most of those who are supposed to perish by the *gout*, are rather destroyed by wrong management, than by the disease itself. But if

Topics un-
safe in the
gout.

(x) In this case bleeding, gentle vomitives, blisters, and the medicines ordinarily prescrib'd in the *Asthma* are highly proper, and often effectual.

(y) Turpentine glysters given every twelve hours, and opiates administer'd occasionally in small quantities, will do service here ; but aromatics, which are otherwise proper in an internal *gout*, must be exhibited very sparingly, for fear of inflaming the parts, and exasperating the symptoms.

a person be desirous of trying the efficacy of such external medicines as are esteemed certain anodynes, to prevent being mistaken, instead of applying them at the declension of a particular fit, when the pain is just going off spontaneously, let them be used in the beginning, and he will soon be convinced of their insignificance, and the groundlessness of his expectations; as they sometimes do mischief, but can never do service. For this reason I have laid aside the use of topics for several years; but I found most benefit formerly from a cataplasm, made of *white bread and saffron boiled in milk*, with the addition afterwards of a small quantity of *oil of roses*; which, however, did not at all relieve me in the beginning of the fit. (z) If, therefore, the pain be extremely severe, the patient had better keep in bed till it abates a little, than to have recourse to anodynes, but notwithstanding it will be proper if the pain be very violent, to take a dose of *laudanum* in the evening, otherwise it were better omitted.

The burning
of the part
with moxa,
or raw flax,
of little service.

68. But now I am treating of external applications, I must say something of a certain *Indian* moss, entitled *moxa*; which is highly esteemed of late in the cure of the *gout*; the manner of using it being to burn a small quantity of it upon the part affected. Now, tho' this remedy is said to come from the *East-Indies*, and to have been unknown to the *Europeans* till of late years, it will nevertheless appear to be of more ancient date with us, by consulting the writings of *Hippocrates*, compiled above two thousand years since. 'Treating of the *Sciatica*, he advises, "That if the pain be fixt in any one part, and does not yield to medicines, in whatever part it be, to burn it with raw flax": and a little further, speaking of the *gout* in the feet, he says; "The same things are proper here, that do service in the *gout* of the joints; and indeed this is a long and painful, but not a mortal disease: if the pain however continue in the fingers, burn the veins above the joints with raw flax." (a) Now I am of opinion, that

(z) Much mischief has been done in this disease by improper outward applications: so that it is adviseable not to have recourse to any without great necessity, and in this case to be particularly careful to make a proper choice. In general, they are to be stimulating in the beginning of a fit, and till after the height, and perspirative and strengthening towards the declension. Warm flannel is perhaps the best universal topic.

(a) *Lib. de affect. sect. v. pag. 524.*

that no one can imagine that there is such a specific difference between the flame of burning *flax*, and that of *Indian moss*, as to render the latter more effectual in the cure of the *gout* than the former; any more than he can suppose that a fire made with oak billets can do more than another made of ash. This burning of the part affected bids fair to ease the pain, and may sometimes effect it, the most subtle and spirituous part of the morbid matter deposited in the part being by this means expelled. But the relief hereby obtained must needs be of short duration, because it does not at all amend the indigestion, which is the antecedent cause of the *gout*; and it may seem needless to observe, that it is to be used only in the beginning of this disease. For when the *gout*, either on account of its long continuance, or thro' wrong management, retreats to the internal parts, which sometimes happens, and, instead of pain causes sickness, gripings, and abundance of the like symptoms, no judicious person will be for using fire.

69. And now I have delivered all that I have hitherto discovered concerning the cure of this disease; but if it be objected, that there are many specific remedies for the *gout*, I freely own I know none, and fear that those who boast of such medicines are not at all wiser than I am. And, in effect, it is to be regretted, that the excellent art of medicine should be so much disgrac'd by such trifles, which the credulous are deceived with, either thro' the ignorance or knavery of authors; remedies of this kind being extravagantly magnified in most diseases by those who offer them to sale. But what is more surprizing, this ridiculous fondness does not only obtain in such diseases as are regularly formed, but in those likewise which are not formed, and proceed from some injury of the organs, or from an external cause, and it imposes upon persons that in all other respects are men of judgment. We have sufficient proof of this in such medicines as are commonly deemed specifics in contusions; such as *sperma ceti*, Irish *slate*, &c. which only mislead us from the method required in these cases, as will appear by trying how much more safely and expeditiously these accidents may be cured by bleeding and purging alternately, without having recourse to these insignificant remedies, which are generally given after the first bleeding,

*The author
unacquaint-
ed with any
specifics for
the gout.*

bleeding, or to raising a sweat, which ordinarily continues during the use of them, and heats the parts already disposed to an inflammation, so much as to endanger the life of the patient without necessity.

The foundation of the author's method.

70. To conclude; the method I have here laid down is founded upon a search into the above-mentioned signs and symptoms of the distemper, and by pursuing it I have relieved myself and others: but the radical cure of the *gout* is yet a secret, nor do I know when, or by whom it will be discovered. I hope, nevertheless, that I have contributed in some degree to the good of mankind by this treatise, by faithfully pointing out those rocks whereon myself and many others have split, subjoining likewise the best method of cure which I have hitherto discovered, which is all I promise; tho' after long consideration I cannot help thinking that such a remedy will be found out hereafter; and if ever this should happen it will betray the ignorance of the theorists, and clearly shew how notoriously they are mistaken in the knowledge of the causes of diseases, and in the medicines they give to cure them. We have a plain proof of this in the *peruvian bark*, the best specific in intermittents; for, how many ages had the most acute physicians spent in searching into the causes of intermittents, and adapted such methods of cure as were best suited to their several theories? But how little honour those methods did to the theories whereon they were founded, appears from a late instance in the practice of those, who, ascribing the various kinds of intermittents to the redundancy of different humours in the body, ordinarily attempted the cure by altering and evacuating these humours; which succeeded ill with them is as manifest from their failure, but especially from the more successful use of the bark, by the help of which, if given in a proper manner, we commonly answer the end effectually, without regarding those humours, diet, or regimen; unless the patient be unnecessarily kept in bed whilst he is taking it; in which case, however, so efficacious is this medicine, that it seldom fails curing the patient, notwithstanding this inconvenience of the disease being increas'd by the warmth of the bed. In the mean time, till the radical cure of the *gout* be found out, which all physicians, and myself in particular, ought to wish for, it

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is hop'd the public will receive this differtation in a favourable manner ; but if they should not, I am so well acquainted with the tempers of mankind, that it will be no great disappointment to me ; and I know my duty so well that I shall not be discouraged thereat. And, if the racking pains, unfitness for motion, and other disorders which I have been afflicted with during the greatest part of my life, together with the loss I have sustained in my business by sickness, may be a means of relieving others, I shall have some reward for the miseries of this kind, which I have suffered in this life, now I am leaving it for another.

A TREATISE of the DROPSY.

1. **T**HE *dropsy* attacks persons of all ages, and of both sexes ; but women are more subject to it than men : it chiefly happens to men when they are advanced in years, and to women when they are past bearing children ; tho' sometimes young women also, whilst they continue childless are seized with it. One of the first signs of the *dropsy* is the *pitting of the leg* when the finger is forced against it, especially towards night, which however is not so certain a sign of a beginning *dropsy* in women as it is in men, as being frequently found in pregnancy, and a suppression of the *menfes* ; whatever the cause of that suppression be. Nor is the swelling of the legs, a certain sign of the *dropsy* in men ; for when an antient person of a gross habit has had an *asthma* several years, and is suddenly freed from it in the winter, a considerable swelling soon arises in the legs, resembling a *dropfical* swelling, and like that, is larger in winter than in summer, and in moist than in clear weather, and yet without causing any remarkable inconvenience lasts the remainder of life. Nevertheless the swelling of the legs in men is generally speaking to be accounted a sign of an approaching *dropsy*, especially if it be attended with a difficulty of breathing ; and it increases every day in magnitude, till the feet will receive no more water, and then the thighs swell, and afterwards the belly fills with the *serum*, which is continually separated from the

Whom the dropsy chiefly seizes, and at what time of life.

the blood, and by degrees stretches it as much as it will bear; so that it frequently contains several gallons of water, which falling upon the navel, sometimes occasions a *navel-rupture*.

*Attended
with three
capital
symptoms.*

2. This distemper is accompanied with three symptoms; (1.) *a difficulty of breathing*, proceeding from the compression of the *diaphragm*, by the water which obstructs its natural motion; (2.) *a voiding of little urine*, occasioned by the serous parts of the blood being emptied into the belly, and other parts fitted to receive it, which should naturally have been evacuated by the urinary passages; (3.) *great thirst*, caus'd by the putrefaction of the lymph, which, by its long continuance in the body, grows hot and acrimonious, and occasions a kind of continual fever and thirst.

As the swelling increases, the other parts waste.

3. In proportion as the swelling of the parts affected increases, the other parts become more emaciated, and waste away, and at length, the quantity of the extravasated water growing too large to be contained in the belly, it is translated to the vital and noble parts, and the patient perishes by a kind of deluge.

*This disease
caused by the
weakness of
the blood.*

4. This disease in general proceeds originally from the weakness of the blood, which being unable, in this state, to change the aliment into its own substance, necessarily throws it off upon the extremities, and depending parts of the body, and soon after also into the belly, where, so long as the quantity is not considerable, nature forms some small vessels to contain it, till it increases to that degree at length, as to be included only by the *peritonæum*.

*Whence
that pro-
ceeds.*

5. Now the blood is most commonly debilitated by (1.) an immoderate evacuation of blood by blood letting, or (2.) any other way, (3.) a disease of long standing, or (4.) the destructive custom of drinking spirituous liquors to excess, which destroys the natural ferments of the body, and wastes the spirits. (a) Hence great drinkers

(a) The immoderate use of spirituous liquors is attended with several ill consequences; for being drank in this manner, they render the fibres over-rigid and tense, communicate an acrimony to the animal fluids, and not mixing readily therewith, are apt to thicken and coagulate them, whence they obstruct their circulation, especially in the small vessels, and cause the liver and glands of the mesentery to grow scirrhus, and by this means contribute greatly to the generation of *humoral drop-
sies*, and other chronic diseases.

drinkers are most subject to the *dropsy*, notwithstanding its being a cold disease : and, on the contrary, water-drinking in such as have been long accustomed to generous liquors, is equally prejudicial to the blood.

6. It must be noted, however, that in women this disease does sometimes proceed from a different cause, namely, from an obstruction of one of the *ovaries*, which by degrees destroys its tone, whence its coat being stretched in a wonderful manner by the lymph first deposited there, and ready to burst, nature forms some small vessels to receive it, and at length one or more of them breaks, empties its contents into the cavity of the belly, and occasions the same symptoms, as in the *dropsy*, which we have specified above. But I have already treated of this species of the *dropsy*. (b)

Is sometimes produced by a different cause in women.

7. There are likewise two other kinds of swellings of the belly, resembling a *dropsy*, both which often affect women. The first is a preternatural fleshy excrescence generated in the inner parts of the belly, which swells it as much as water included therein does. (c) The other kind proceeds from *flatus*, and besides a swelling causes the signs of pregnancy; and happens chiefly to widows, or women that did not marry till they were advanced in years. And such, in their own and midwife's opinion, feel the child move from the customary time, to the usual time of delivery, and withal are sick between times, as pregnant women commonly are, and their breasts swell and have milk in them, insomuch that they frequently provide child-bed-linen: but at length the swelling of the belly diminishes in the same proportion it increased, and frustrates their hopes. (d) Neither of these disorders is to be referr'd to the distemper under consideration.

Two other kinds of swellings of the belly, resembling a dropsy in women.

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8. The

(b) See p. 384. par. 92.

(c) The author here should seem to mean what the writers in medicine term a *mole*, or *false conception*, which is apt to impose upon women for a time, so as to make them believe they are pregnant. For a further account of this disorder we refer the reader to Dr. *Shaw's* practice of physic; where he will find a short and satisfactory account of it.

(d) This is that kind of *dropsy*, which authors distinguish by the name of a *Tympany*, or *flatulent dropsy*, in which the belly frequently contains only a small quantity of water.

The curative indications.

Gentle purgatives more pernicious than serviceable.

8. The genuine curative indications, in a manner naturally arising from the symptoms above enumerated, are either (1.) to carry off the water contained in the belly, and other parts, or (2.) to strengthen the blood, so as to prevent a fresh drain of water into the parts affected.

9. (1.) With respect to the evacuation of the water it is well worth observing, that weak purgatives do more mischief than good in *dropical* cases; for as all cathartics are prejudicial to nature, whence it is that they purge, they in some measure impoverish the blood; for which reason, unless they operate, and run off expeditiously, they increase the swelling by moving those humours which they cannot carry away with them, and raising a tumult in the blood, as appears manifestly in the legs of those who are thus gently purged. To make purging therefore beneficial to the patient, it should be known whether he is easy or hard to purge, inasmuch as the cure depends entirely on this particular, and will accordingly be very easy or difficult to effect. Hence, if *hydragogues* are necessary, great regard must be had to the patient's being easy or hard to purge, which can only be learnt with certainty by enquiring carefully in what manner other purgatives have operated with him formerly. For as some persons are endued with a prevailing *idiosyncrasy*, or peculiarity of constitution, which renders them easier or harder to be operated on by cathartics; whoever makes the sensible temperament of the body the standard in this case, will often endanger the patient's life; as it frequently happens that some persons of a strong constitution are easy to purge, whilst others of a weak one find the strongest purgatives of but little effect. And in reality this caution respecting the unsuitableness of the habit to bear purging is to be attended to in prescribing *hydragogues*, and all other purgatives; for I have frequently found a super-purgation occasioned by lenient draughts, for want of enquiring beforehand into the disposition of the patient, with respect to purging. But because of all diseases, the *dropsy*, as I have already remarked, requires the roughest and quickest purgatives, and gentle purging, which does service in some other distempers, ought by no means to be admitted here, inasmuch as mild purgatives rather increase than lessen

lessen the swelling, it follows that rough and plentiful purgation is to be preferr'd, especially as we have *laudanum* to check the operation of the medicine, in case it proves too violent.

10. Again, with respect to purging for the cure of the *dropsy*, great care must be had to carry off the water as speedily as the strength will permit: it being proper to purge every day, unless great weakness or the too violent operation of the preceding purgative should require a day or two to be interpos'd. For if purging be used only at distant intervals, (tho' the last purge brought away plenty of water) we shall allow time for a fresh collection of water, and by such a delay (as if we knew not that the business was almost completed) instead of accomplishing the cure, leave it unfinished. Moreover, the bowels are in danger of putrefying from the long continuance of the water in the belly; to which may be subjoin'd an observation of great importance, namely, that the waters being thus put into motion by the former purgatives, are more apt to injure the body, than whilst they remained at rest. So that for this reason, as well as the foregoing, this intention, respecting the evacuation of the waters contained in the belly, must be answered with the utmost expedition; nor is purging to be left off without an absolute necessity till the whole quantity is discharged.

The water to be carried off, as fast as the strength will bear.

11. It is further to be noted, and is verified by practice, that *hydragogues*, if given alone to such as are hard to purge, seldom answer our expectations; and being taken in a large dose, instead of purging, raise a disturbance in the blood; whence the swelling, which should be lessened thereby, is found to increase. They are of no other use, therefore, in such constitutions than to quicken the operation of lenient cathartics: but, nevertheless, they operate speedily and effectually in such as are easy to purge.

Hydragogues their use, and how to be given.

12. For this reason, in such habits, *syrup of buckthorn* alone evacuates water plentifully and little else, without disturbing the blood or rendering the urine high-colour'd, as other purgatives generally do, and has only one bad quality, as occasioning great thirst during the operation. But if it be given in the largest dose to such as are hard to purge, it will neither give many motions, nor carry off enough water.

Syrup of buckthorn a safe and effectual one.

Verified in
a case.

13. I remember well, for it was my first *dropfical* patient, that I was called about twenty seven years ago to Mrs. Saltmarsh in *Westminster*, who had the *dropfy* in the greatest degree I have yet seen, her belly being swell'd to an incredible size. I gave her an ounce of *syrup of buckthorn* before dinner, according to the custom of that time, and it brought away an almost inconceivable quantity of water, without causing any disturbance, or faintness. Encouraged by this success I gave it every day, only interposing a day or two occasionally, when she seemed weaker than ordinary. And the water being by these means carried off by degrees, the swelling of the belly diminished daily, and she recovered.

The author
conceives too
highly of it.

14. And now, being young and unexperienced, I could not help thinking that I was possess'd of a medicine, effectual for the cure of any kind of *dropfy*: but in a few weeks I discovered my error. For being called afterwards to another woman afflicted with the *dropfy*, which succeeded an inveterate quartan, I gave this syrup and repeated it frequently, increasing the dose by degrees; but having ineffectually attempted to evacuate the waters, inasmuch as the medicine did not operate, the swelling of the belly increased, and she dismissed me; and, if my memory does not fail me, recovered by the assistance of another physician, who administer'd more efficacious remedies.

Lenient ca-
thartics
failing,
stronger
must be us'd.

15. When the constitution therefore appears such that lenient cathartics will not cure with ease and expedition, recourse must be had to stronger: in which case, as I have just hinted it should be remarked, that tho' few *hydragogues* administer'd alone will answer the end, yet by mixing them with lenients to quicken the operation of these, they prove sufficiently effectual. In such habits, for instance, I have frequently ordered the following potion with success: it must be given, however to none but strong persons, whom it purges when nothing else will, as I have learnt from a long course of Experience.

A purging
potion.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together in enough water, so as to leave three ounces when strained off, in which dissolve manna and salu-
tive

tive syrup of roses, of each an ounce; syrup of buckthorn, half an ounce; and electuary of the juice of roses, two drams: mix them together for a potion.

Or,

Take of white wine, four ounces; jalap finely powder'd, *Another.* a dram; ginger, in powder, half a scruple; syrup of buckthorn, an ounce: mix the whole together for a potion, to be taken betimes in the morning, and repeated every day, or every other day, as the strength will bear. (e)

16. The following is another form of medicine which I frequently use, and may be commodiously given to such as cannot bear the repetition of other purges, inasmuch as it both warms and strengthens the patient during its operation.

Take of the roots of jalap and hermodactyls, bruise'd, *A purging tincture.* each half an ounce; scammony, three drams; the leaves of senna, two ounces; liquorice-root, and the seeds of anise and caraway, each half an ounce; the tops of wormwood, and the leaves of sage, each one handful; infuse them together without heat, in
G g 3 three

(e) There is not a better and more agreeable general purgative in all the *materia medica* than *jalap*: it is scentless, not ill-tasted, nor bulky, works pleasantly and expeditiously, and particularly carries off watery humours. It is indeed improper in acute fevers, and in rigid, warm, dry, and bilious habits, but may be safely and advantageously given in lax, moist, and cencophlegmatic constitutions, and in children. It is best in substance, and requires no corrective, provided it be given in such a dose, as is skilfully adapted to the disease, habit, and age of the patient. Aromatic oils, which are ordinarily mixed with it by way of correctives, should seem to occasion a greater irritation than the purgative itself, by the heat and pungency of their parts, so as sometimes to cause an inflammation, and by drawing the bowels into spasmodic contractions, rather obstruct than promote the operation of the medicine. As to alkaline salts, as the salt of wormwood, tartar, and the like, which are used for the same purpose, they dissolve and increase the surfaces of the resinous parts of the root, whence it touches in abundance less points, and of course operates more gently, or in other words less effectually, which end might be answered as well perhaps by diminishing the dose. May not the custom of prescribing it always with correctives proceed from prejudice and want of consideration, rather than an absolute certainty of their usefulness, founded on a competent number of trials, duly verified?

three pints of common aqua vitæ, and strain off the tincture only when wanted. Let a spoonful of it be taken at bed-time, and two the next morning, increasing or diminishing the dose, in proportion to its operation.

Elaterium
commended
for such as
are hard to
purge.

17. But the two best medicines, in my opinion, for such as are hard to purge, both which are stronger than any of those above specified, are *elaterium*, and the infusion of *crocus metallorum*. *Elaterium*, or the *fæces of the wild cucumber-juice*, operates powerfully in a small quantity, and carries off abundance of foul and watery humours. Two grains of it is, generally speaking, a sufficient dose for most persons. I usually order this quantity to be mixed with a scruple of *pil. ex duobus*, and made into three pills, to be taken in the morning. (f)

And the in-
fusion of
*crocus me-
tallorum*.

18. As to the infusion of *crocus metallorum*, if an ounce and half, or, to such as are hard to purge, two ounces of it be given in the morning, and repeated every day, as the strength will bear, tho' at first it should only seem to evacuate the water contained in the stomach, it will, nevertheless, at length empty the belly. For besides its usually going downwards, after the vomiting stops, the considerable agitation and the shaking of the stomach and bowels, in a manner surrounded by a current of water, occasioned by so violent an effort, must needs be followed with an evacuation of the water, thro' such passages as naturally are not sufficiently open to suffer it to run off that way. But if this emetic does not work enough downwards, I sometimes, but not often, add to it, after the third or fourth dose, a quantity of the *electuary of the juice of roses*, and *syrup of buckthorn*, after the following manner.

Take

(f) The antients are said to have given this from six to thirty grains, but the moderns seldom exceed four or five. Dr Lister indeed, in a dissertation on the *dropsy*, tells us, that he has given it successfully in the quantity of ten grains, once a week, for three months running; and has many curious particulars concerning it. However, as it is universally esteem'd a very acrimonious, inflammatory and rough purgative, it should rather be given in a small dose at first, increasing it by degrees as the patient can bear it, and the state of the disease may require: for fatal consequences often result from purging too violently both in this and other diseases, where the tone of the vessels is so much injured, and the fluids so poor and spiritless.

Take of the distilled water of carduus benedictus, three ounces; the infusion of crocus metallorum, an ounce and half; syrup of buckthorn, half an ounce; the electuary of the juice of roses, two drams: mix them together for a potion. (g)

A strong purging potion.

19. Now, that there are secret passages thro' which the waters are convey'd from the cavity of the belly to the intestines is manifest; for daily experience shews that *hydragogues* carry off as much water downwards, as if it were originally contained in the intestines themselves. But as it is not easy to account for this fact, it brings into my mind an excellent passage of *Hippocrates*, who is universally esteemed the most knowing physician the world ever had. His words are these: "Some physicians and pretenders to learning, hold it impossible to understand physic, without being acquainted with the nature of the human body, in the manner of its formation; but, I am of opinion, that (b) what philosophers and physicians have delivered concerning nature relates more to painting than to the art of medicine.

Secret passages for the waters to pass from the belly to the intestines, prov'd from fact.

20. But lest this admirable author should be accus'd of error, or empirics endeavour to patronize their ignorance from this passage, I freely own, that as far as I am able to judge of practice, which ought to be the test of physicians, it is absolutely necessary a physician should be well acquainted with the structure of the human body, to enable them the better to form right conceptions of the nature and causes of some diseases. For without a knowledge of the structure of the kidneys, and urinary passages, one cannot conjecture whence those symptoms arise, which proceed from

Hippocrates defended, and the use and necessity of anatomy shewn.

G g 4

(g) Dr *Lister*, in a dissertation on the dropsy, speaking of this remedy, seems to apprehend it will occasion great thirst, as being of a very drying nature; and attributes its working downwards, after it has done operating upwards, to the vast quantity of liquor, which must necessarily be drank during its operation, rather than to its being possessed of any purgative quality. And as persons in an *ascites* have generally a very difficult respiration, he thinks they cannot bear the operation of an emetic, which takes up two hours without falling into swoonings.—

The virtue of this medicine therefore seems to stand upon a very precarious foundation, and, like many others, wants to be settled by well-conducted and competent experience.

(b) See lib. de prisc. med.

from a stone's being lodged in the *pelvis*, or sticking fast in the ureters. Surgeons likewise ought to understand *anatomy*, that they may more surely avoid those vessels, or parts in their operations, which cannot be hurt without destroying the patient. Neither can they reduce dislocated bones to their natural situation, without a careful examination, and thorough knowledge of the position of the bones in a skeleton.

*Easily ac-
quir'd.*

21. Such a knowledge of the human body, therefore, is so absolutely necessary, that whoever wants it will treat diseases hoodwinked. Besides, this science may be acquired without much trouble, and in a short time; for it may be sooner learnt than other more difficult matters by persons of no great acuteness, by inspecting the human body, or the bodies of some animals. But in some acute diseases, (which comprehend more than two thirds of distempers) and most chronic ones, it must be owned, that there is something *divine*, or some specific property, which is not discoverable by a search into the structure of the human body. Accordingly, it is my opinion, that *Hippocrates* in the passage above quoted, means no more than to caution against depending principally on the dissection of dead bodies, as if the art of medicine might receive greater improvement from thence, than from an accurate observation of the natural symptoms of distempers and those things which do service or mischief, and that he did not intend to explode or depreciate a general knowledge of *anatomy*.

*But only a
general
knowledge
of it to be
obtained.*

22. And, in effect, it may be presum'd, that so wise a man could not but know that all the discoveries that can be made by mankind, cannot reach beyond such a general knowledge. For tho' a careful dissection of dead bodies exhibits the greater organs, employed by nature in her operations, and certain vessels, likewise, thro' which the juices are convey'd from these to other parts; yet the original and primary cause of this motion remains invisible; nor can the eye, assisted by the best microscope discover those vessels, for instance, thro' which the chyle is strained in passing from the intestines to the chyliiferous vessels; or the ducts thro' which the blood passes from the arteries into the mouths of the veins. Again, there are numberless vessels and pores in the human body, the structure where-

of

of is still more delicate, which no one yet has so much as conceiv'd ; so deficient and gross is our knowledge, which is in a manner limited to the surface of things, but can by no means attain to discover their causes. However, notwithstanding this, there needs no very difficult enquiry to come at the knowledge of what is sufficient, (as far as the nature of things will allow) to direct us in the cure of those diseases, which require this kind of skilfulness, as we have intimated above, and especially such a share of it as may induce us to revere the creator with the greatest humility, whilst we contemplate his wonderful workmanship in those things we are able to account for, and that excellent contrivance in others, which we do not in the least comprehend.

23. And as *Hippocrates* censures such as spend more time in searching into the more curious and less useful parts of anatomy, than in making practical observations, and consequently studying nature ; so there is the same reason in this age to censure those, who maintain that the art of medicine cannot be better improv'd, than by new discoveries in *chemistry*. For gratitude requires us to own the helps we have received from chemistry, whence we have been supplied with some good and well-adapted medicines to answer indications, amongst which the infusion of *crocus metal-
lorum* the vomitive under consideration, is no contemptible one ; so that for this reason chemistry is to be held a very useful art, provided it be restrained within the bounds of pharmacy. And nevertheless they are guilty of a fault, or at least a mistake, who work their imagination up to such a pitch, as at length to suppose the chief deficiency of medicine to be a want of efficacious remedies only procurable from chemistry. Whereas, whoever considers the matter thoroughly will find, that the principal defect in the practical part of physick proceeds, not from a scarcity of medicines to answer particular intentions, but from the want of knowing the intentions to be answer'd. For an apothecary's prentice is able to inform me, in a very short time, what medicine will purge, vomit, sweat or cool : but a man must be much conversant in practice to be able to indicate the properest time of administering any par-

*The use and
and abuse
of chemist-
ry hinted.*

particular remedy, in all the different stages of diseases, and throughout the course of the cure.

Medicine,
how best im-
proved.

24. And, in reality, I am fully persuaded, that nothing tends more towards the forming a true judgment of this than an accurate observation of the natural symptoms of diseases, and the medicines and regimen which appear from practice to be beneficial or detrimental. From a careful comparison of all these things together the nature of the distemper appears, and the curative indications are much better and more certainly deduced, than by endeavouring to find out the nature of any determinate concrete principle of the body. For the most curious disquisitions of this kind are only superficial reasonings, artfully deduced and cloath'd in a beautiful dress, which, like all other things that have their foundation in the fancy and not in the nature of things, will be forgot in time, whereas those axioms which are drawn from real facts will last as long as nature itself. (i)

25. But tho' all *hypotheses* founded on philosophical reasonings are quite useless, since no man is possess'd of intuitive knowledge, so as to be able to lay down such principles as he may immediately build upon, yet when they result from facts, and those observations only which practical and natural phœnomena afford, they will remain fixed and unshaken: so that though the practice of physic, in respect of the order of writing, may seem to flow from *hypotheses*, yet if the *hypotheses* be solid and true, they in some measure owe their origin to practice. To exemplify this remark: I do not use chalybeates and other medicines that strengthen the blood, and forbear evacuants in *hysteric* disorders, (unless in some particular cases where I rather exhibit opiates) because I first took it for granted, that these complaints arose from the weakness of the animal spirits; but when I learnt from a constant observation of practical phœnomena, that purgatives always

(i) Physic undoubtedly had its origin from observations, whether made by accident or with design, and was not the effect of human invention; whence experience should seem the most direct and effectual means of improving it. The physician, therefore, till physic can be made more scientific, would do well to consider himself as the servant and interpreter of nature; for without observing her ways, and pursuing them closely, nothing great can be done in the cure of diseases, but much mischief.

ways increas'd the symptoms, and medicines of a contrary kind ordinarily quieted them, I deduced my hypothesis from this and other observations of the natural phenomena, so as to make the philosopher in this case subservient to the empiric. Whereas to have set out with an hypothesis would have been as absurd in me, as it would be in an architect to attempt to cover a house before he had laid the foundation, which only those who build castles in the air have a privilege of doing, as they may begin at which end they please.

26. But to resume our subject: whatever passages those are through which the water passes from the cavity of the belly into the intestines, I am sure that the vomiting occasion'd by the above-mentioned emetic does powerfully evacuate it, both upwards and downwards. For after the second or third puke, the waters do not seem to be forced out so much by the secretory virtue of the medicine, as to run with a full current, the obstruction being in a manner broken down, and the fluices opened, as manifestly appears by the frequent tumultuary evacuation of the waters in the intermediate spaces of vomiting.

The infusion of crocus metallorum, an excellent hydragogue.

27. A poor woman, about fifty five years of age, begg'd my assistance in *August* last. She had long been afflicted with an intermittent fever, and afterwards lain in prison three years: she had suffered much from cold, and her belly was more swell'd than I had ever seen any person's before. I gave her an ounce and half of the infusion of *crocus metallorum* for three days running, and afterwards every other day, as her strength would bear, till she had taken six doses. The first puke occasioned a total suppression of urine, which she afterwards voided sometimes, tho' very rarely, by intervals; and the oftner the vomitive was repeated, the more water usually came away, and, towards the end of the operation, both upwards and downwards. But after the third dose the swelling began to fall, and in a fortnight her belly appear'd to be shrunk a yard, by the thread with which I had ordered it to be measured at first, and she assured me that she computed she had voided several gallons of water. This enabled her to lay her head upon the pillow, and turn from side to side, as she pleas'd, whereas before she was constrained to sleep in an upright posture, for fear of being suffocated

Verified in a case.

cated by the weight of the waters. But the emetics by their violent operation raised the vapours so much, as to render their further use unsafe, whilst, notwithstanding, the remaining swelling of the belly, and the motion of the waters which she perceived upon turning herself in bed, and likewise the pits in the legs, which kept depressed after any thing was forced against them, fully manifested that there was still much water in the belly; for these reasons, I say, I was forc'd to finish the cure with purgatives. Accordingly, I afterwards prescrib'd either the above-mentioned purging potion, or some other *hydragogue*, as her strength and the vapours would permit; for purgatives do in some measure cause *hysteric* disorders, tho' of a gentler kind than vomitives ordinarily do. I continued this method till she seem'd to be recovered.

Remarkable particulars happening during the course.

28. During the course the following remarkable particulars happened. (1.) On the intermediate days of purging, she sometimes voided water plentifully downwards, and, towards the latter end, by urine also, to the quantity of a gallon in a day, tho' I allow'd her only a pint and half, or a quart of liquor, during that space of time: so that all the passages seem'd to be open. (2.) Towards the conclusion of the cure the purgatives rais'd the vapours, and the belly swell'd much towards the breast, as if it had been filled again with water, which notwithstanding I knew could not be, because she drank so little, and consequently that the swelling proceeded only from *flatus*, occasion'd by the hurry rais'd by the purges: and the event verified my opinion. For tho' she parted with a gallon of water in a day when she purged, yet her belly soon began to swell upwards, causing a difficulty of breathing, and did not fall till the disorder occasioned by the purgative was gone off, and the body had recovered its natural state and rest; then the swelling and other symptoms vanished suddenly, and return'd not till they were again occasioned by the succeeding purge. (3.) Lastly, tho' this woman, who was about fifty years of age, had not had her *menfes* for several years past, they now flow'd again violently, and this discharge, coming upon the preceding evacuations, greatly increased the number of *hysteric* symptoms: *viz.* the severe pain in the back, in the region of the spleen, and in the head, join'd with a severe cough.

cough. And further, tho' it might seem highly probable that but little water remained in the body, after so large a quantity had been discharged upwards and downwards, and by urine likewise, yet the belly continued as much swell'd as it usually was before any evacuation had been attempted. In order therefore, to quiet these motions, which made her uneasy for a week after the last purge, I was constrain'd to give an ounce and half of *diacodium*, for four nights running, and to order the dose to be repeated in three hours, in case she got no rest : and by this means these symptoms were quieted, and the swelling vanish'd.

29. In the mean time it must be noted, that if the belly be not much swell'd, the waters are not so readily evacuated by the infusion of *crocus metallorum*, as in case of a large swelling thereof: for the very bulk of the water whilst it is agitated and shaken by the operation of the vomitive, wonderfully promotes its own evacuation ; so that for this reason, unless the belly be considerably swell'd, it is best to rely entirely on cathartics.

In what case purgatives are best.

30. There is another pretty common and simple medicine, which cures the dropsy in the same manner as the emetic, it is made by boiling three handfuls of the inner bark of elder in a quart of milk and water to a pint, half of which is to be taken morning and night every day, till the cure be completed. This medicine works upwards and downwards, like the infusion of *crocus metallorum*, and therefore cures the distemper in the same manner, and not by any specific virtue : for in case it does not vomit or purge at all, or but gently, it does no service ; but if it operates effectually either way, and especially both ways, it proves an admirable medicine in the dropsy.

A decoction of the inner bark of elder, curative of the dropsy.

31. But, in reality, it is well worth noting, and a common case, that water is deposited in the legs, thighs, and even in the belly, which nevertheless must by no means be evacuated either upwards or downwards. As for instance ; (1.) in case a swelling of this kind succeeds a consumption of long standing ; or (2.) proceeds from the putrefaction and disorder of some of the bowels ; (3.) from poor weak blood ; (4.) old fistulas in the muscular parts, accompanied with a considerable discharge ; (5.) great weakness, and an

When strengthening medicines are to be prefer'd to evacuates.

im-

immoderate evacuation of the juices, and spirits by salivation ; or (6.) from an over-flender diet in the cure of the venereal disease. In these and other disorders arising from such causes, purging not only avails not, but increases the distemper by further weakening the tone of the blood ; so that in these cases the cure depends entirely upon strengthening the blood and bowels in the most effectual manner. And, amongst other things of this kind, besides the strengthening medicines hereafter to be enumerated, experience hath taught me that this intention is admirably answered by change of air, and exercise suited to the strength of the patient ; the spirits being hereby revived, and the excretory organs restored to their proper functions.

When diuretics.

32. There are other cases, likewise, where the waters are not to be discharged by vomiting nor purging ; for instance, in weak constitutions and hysteric subjects, they cannot be evacuated by *purgatives*, and much less by *vomitives*, but are to be carried off by *diuretics*. Several of this kind are extoll'd in the writings of physicians, but the most, if not the only efficacious ones, in my opinion, are those prepared from *lixivial* salts, from whatever plant the ashes be obtained. But as *broom* is easily procurable and much esteem'd in this disease, I generally order a pound of the ashes of it to be infused cold in two quarts of *rhenish* wine, with one or two pugils of *common wormwood*, and prescribe four ounces of the filtred liquor to be taken constantly every morning, and at five in the afternoon, and at night, till the swelling disappears. and by this remedy alone I have known this distemper cured, in persons of too weak a constitution to bear purging, when the case was judged desperate.

The blood to be strengthened after the waters are carried off.

33. (2.) To proceed now to the second intention : after the waters, whence this disease immediately proceeds, are wholly evacuated, in general only half the work is done, inasmuch as the weakness of the blood, whence it originally proceeds, remains to be removed by a long and daily use of heating and strengthening medicines, in order to prevent a fresh collection of water, or, in other words, a relapse. For tho' young persons frequently recover, after the waters are sufficiently carried off without any other help, their natural

tural heat supplying the place of the abovementioned remedies, yet the antient and infirm, under these circumstances, must have immediate recourse to such simples as warm and strengthen the blood.

34. And here, besides those hereafter to be set down, *The medicines proper in this case.* recourse may be had to such as I have commended above in treating of the *gout*, whether, of the medicinal or dietetic kind, or belonging to the rest of the non-naturals, inasmuch as these two diseases have this property in common, namely, that the same strengthening remedies tend to remove the original cause in both; only *wine*, which should be wholly refrained in the *gout*, may be advantageously used in the *dropsy* for common drink. It must, however, be own'd, that as we only learn from the apparent symptoms, and the effects of whatever does good or harm, that both these and several other *chronic* diseases proceed from the weakness of the blood and indigestion, we have yet but a superficial knowledge of distempers, and cannot find out their essential differences, and the *specific* ill qualities of the juices, arising from such indigestions, the common cause of all *chronic* diseases. Add to this, that we are utterly ignorant of the various peculiar alterations in *acute* diseases, proceeding from the same cause, namely, the inflammation of the blood. Since, therefore, we have no *specifics* for these and other *chronic* diseases, we are constrained to adapt the curative method to the more general cause, rather than the essential nature of diseases, varying the procedure occasionally, conformably to the spontaneous indication used by nature in expelling diseases, or to experience, which teaches the best method of cure in every distemper.

35. Again, in order to answer the intention under consideration, *viz.* the strengthening the blood, whether the evacuation of the water be procured by this diuretic medicine, or by purging, or vomiting, in the manner above specified, the patient, if able to purchase it, must be ordered to drink *wine*, during the course of the cure, after the passages are in some measure opened, and way is made for the water to pass off. Or, otherwise, instead of wine he should drink good strong beer, because all small and cooling liquors, how agreeable soever they may be to the palate, on account

Wine to be drunk freely, after the water begins to pass off.

count of the thirst which generally accompanies this disease, render the patient more phlegmatic, and increase the water, and for this reason are seldom or never to be indulg'd. Whereas, contrariwise, strong liquors, excepting distill'd spirits, promote the recovery so much, as sometimes to affect a cure alone, in the beginning of the disease, when there is but little water in the belly, and especially if they be impregnated with heating and strengthening herbs. Thus I have ordered persons of low circumstances, who could not purchase better remedies, to infuse a sufficient quantity of *horse-radish root, the leaves of common wormwood, scurvy-grass, sage, the lesser centory, and the tops of broom in strong beer*, and use it for common drink. Persons of Fortune may infuse the same ingredients in *canary*, and drink a small draught of it twice or thrice a day at proper times, with the above-mentioned medicines. Or *wormwood wine*, if more agreeable, may be used instead of this, taking nine spoonfuls of it, after two drams of the *digestive electuary* above set down, every morning, at four in the afternoon, and at night. This electuary sufficiently answers this intention, and is much the best and strengthening medicine. (k)

Small liquors to be drank very sparingly.

Thirst, how allay'd.

Steel and garlic good strengtheners.

36. But it is of great moment in this case to drink very sparingly of small liquors, inasmuch as all of this kind in some measure increase the waters; and some persons have been cured by refraining from potables entirely: for which reason, if small liquors be sometimes indulged, they are to be drank with great moderation. However, as this disease is generally attended with great thirst, which is further increased by forbearing small liquors, it may be proper to wash the mouth often with *cold water*, acidulated with *spirit of vitriol*, or to hold a few *tamarinds* in the mouth between whiles, or chew a slice of *lemon*: but none of these must be swallowed, by reason of their coldness, which is prejudicial in this case.

37. *Steel* is an excellent strengthener in the beginning of the disease, inasmuch as it warms and strengthens the blood: and for the same reason *garlic* is very serviceable: I have known the *dropsy* cured by *garlic* alone, by the direction of other physicians.

38. But

(k) See p. 436. par. 31.

38. But it is to be observed, that that species of the dropsy, in which only the legs or the belly swell moderately, does not immediately require the assistance of emetics and cathartics, as frequently yielding to the above-mentioned heating and strengthening liquors. It is, however, principally to be noted, in case the cure be attempted by strengthening or *lixivial* medicines only, that both rough and gentle purging must be forborn, because purgatives destroy the effects of strengthening medicines, as a person must needs own, who has observed the swelling fall from the use of strengtheners, and increase immediately upon purging. For tho' whilst we attempt to carry off the waters, it may be proper to give strengthening medicines between times; yet, when the cure depends altogether on strengthening the blood, we must not meddle at all with cathartics. (l)

Emetics & cathartics not requir'd in all dropsies.

39. It must also be remarked, that the dropsy is not always cur'd by answering both indications; viz. (1.) by carrying off all the water contained in the belly, and (2.) administering heating and strengthening medicines to prevent a fresh collection of water. For in an *ascites* of several years standing, the waters lying a long time upon the bowels, alter their substance, and putrefy them and the neighbouring parts, breed preternatural glands, and form small bladders full of *serum*, (m) and reduce all the parts situated in the cavity of the belly into a kind of putrefactive state, as appears upon dissecting the bodies of those that die of an inveterate *ascites*. The distemper in this state is incurable in my opinion, but nevertheless, as the physician cannot certainly tell how much the bowels are injured, he ought to forward the cure as much as he is able by evacuating and strengthening medicines, and not to lose all hope himself, or cause the patient to despond. And it is for this reason his duty to give his assistance, because in abundance of diseases, when the morbid matter is quite carried off, nature, which perpetually helps us, contrives spontaneously, in a wonderful manner, to expel the pernicious remains of the distemper. Hence every kind of dropsy, how obstinate soever it prove, and how much soever it may have injured the

An inveterate dropsy incurable.

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bowels

(l) See p. 387. note (i)

(m) These are usually call'd *hydatids*.

bowels, may be treated in the same manner as if it was recent.

Outward
applications
of little ser-
vice.

40. As to *topics*, or external applications, according to the best of my observation, they never do much service in this disease. The least pernicious are those which are applied by way of cataplasm or liniment to the belly to discuss the swelling; tho' I do not see how the waters can be discussed. But there are other things prescribed by some instead of internal medicines, which are so far from being serviceable, that they generally prove detrimental; as ointments made of strong purgatives, and applied to the belly, and blisters to the legs and thighs, to discharge the water when the parts are considerably swell'd. But both these applications are unsafe; for by the former the purgative quality of the ingredients is so deeply fixed in the muscles and membranes, as to occasion an incurable *hypercatharis*, or superpurgation; and as to blisters, which empirics commonly apply to the above-mention'd parts, they quite extinguish the natural heat, much diminished already by the stagnation of the water, and thus often cause a gangrene, which is too common an accident in this case. For the slightest wound is very difficultly heal'd in dropical subjects, especially in a depending part, because the substance of the flesh in these parts is so surcharg'd with moisture, that the *serum* flows continually thro' any passage it finds, and thereby obstructs the healing of the wound. And in my opinion the operation of the *paracentesis*, commonly call'd *tapping*, which some practitioners commend, is not less hazardous, or more successful than blisters. (n)

41. To

(n) The operation of *tapping* was not so commonly practised in our author's time, as it has since, and is at present, and besides, was generally defer'd so long, till the weakness of the patient, and the schirrhous, corrupt state, or erosion of the *viscera* rendered it useless, so that it should not seem strange that he entertained so unfavourable an opinion of it. Sir *Theodore Mayerne*, who was for some time cotemporary with him, has not once mentioned it in his chapter on the dropy, to be found in his works.

But to demonstrate its usefulness, we cannot do better, than recommend to the reader's perusal, the description given of the operation, and the success attending it, by Mr. *Sharp*, in his treatise of the operations of surgery, who concludes the chapter of the *paracentesis*, with these words. This operation, though it does not often absolutely cure, yet it sometimes preserves life a great many years, and even a pleasant one, especially if the waters have been

41. To conclude : tho' when this distemper is become a true *ascites*, it has always been held incurable, it will nevertheless be found as certainly curable, provided it be treated according to the method above delivered, and the bowels be sound, as several other diseases that are ordinarily esteemed less dangerous. (o)

42. But if any one should accidentally find fault with these remedies, as being simple and evidently natural, I may with more reason reprove him, for his vicious turn of mind, in exclaiming against curing other persons with such simple medicines, when he would wish to be cured himself, or have his wife, or children cur'd, in case of sickness, by the simplest and cheapest remedies. To which we may add, that he exposes his weakness by making so trifling an objection, as the lustre and excellence of the art of medicine are not so clearly seen in elegant prescriptions, as in curing diseases.

The remedies not contemptible for their simplicity.

43. These are the observations I had to communicate on these two diseases, the *gout* and *dropsy*, and I believe I shall hardly meddle with any others. And as to the works I have already publish'd, if a person will only give them a single reading, I am sorry I should be the means of making him lose his time : but if he will peruse them often, and commit them to memory, I dare say he will receive such advantage from them, as may in some measure equal my wish, and the great pains I have been at, in making and compiling these observations. And indeed, the faithfulness wherewith they have been delivered, can only be learnt by being conversant in practice, and as accurate and diligent an observer as I have

The author vindicates his other works.

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been

been long collecting. I have known several instances of people being tapp'd once a month, for many years, who felt no disorder in the intervals, till towards the time of the operation, when the distension grew painful ; and there are instances where the patient has not relaps'd after it. Upon the whole, there is so little pain, or danger in the operation, that in consideration of the great benefits sometimes received from it, I cannot but recommend it as exceedingly useful.

(o) An *ascites*, coming upon other diseases, in which the *viscera*, were actually tainted, or approach'd that state, and attended with an extravasation of *serum*, occasioned by a rupture of some lymphatic vessels, or hydatids, a wasting of the upper parts, great thirst, and an evacuation of a very high-coloured urine, in a small quantity, which drops a sediment upon standing, may in general be reckon'd incurable.

The improvement
of medicine,
by whom
obstructed.

been. For as in the few things I have wrote, I have kept close to nature, without embracing the opinion of any man, tho' of the greatest eminence, I am persuaded the judicious part of mankind will not condemn me, who cannot but know that the improvement of medicine is alike obstructed by two sorts of men. The first are those who do not at all contribute to improve the art they profess, but hold those in contempt who do so in the smallest degree; and these men screen their ignorance and idleness with the specious pretence of an extraordinary respect for the antients, from whom, they affirm, we ought not in the least to depart. (p)

44. But

(p) This is indeed an idle and absurd pretence, and deserves to have a severer censure passed upon it. Several of the antients were, without doubt, men of superior abilities, as abundantly appears from the writings they have left behind them, especially in what relates to the history of distempers, whence we are furnished with so excellent a set of the diagnostics and prognostics. Hippocrates perhaps, (not to particularize the excellencies of the rest) has surpass'd all that went before, or have succeeded him in this particular, having been an indefatigable and accurate observer of nature. To the antients, likewise, we are indebted for the methods of curing some inveterate chronic diseases, by a proper and long continued use of the *non-naturals*, the introduction of bathing into medicine, lately revived, and now so universally and successfully practis'd, cupping, and many other capital remedies.

But it would be a great piece of partiality to deprive the moderns of that share of reputation, to which they have so just title, for the many useful discoveries they have made from time to time, amongst which the circulation of the blood, found out by our ingenious countryman Dr *Harvey*, deserves to be mentioned in the first place: a discovery which rescued medicine from the contempt it had lain long under, on account of its obscurity and mystery, and let in so much light into the theory and practice of the art, as to set it upon a surer foundation, and recommend it more effectually than ever, to the protection and encouragement of men of genius and candid dispositions.

Is not the present improv'd state of chemistry, pharmacy, anatomy, and surgery, wholly owing to the labour and application of the moderns? How much we surpass the antients in the branches of medicine, will appear to any skilful and impartial enquirer, upon comparing the figure they now make, with the despicable one they made in their time.

To pay, therefore, an unlimited and servile deference to the ancients, is to insinuate that the art of medicine hath attain'd its ultimate degree of perfection, the improbability whereof will manifest upon taking a view of the advancements it has made in good hands for a century or two past, and sufficiently intimates that if skill and application be not wanting, it will continue to improve daily. In effect, if we are blindly and implicitly

44. But why do we own that all other arts which are of less importance to mankind, have been considerably improved without doing any injury to the antients, and hold physic alone to be entirely perfect? Could not the inventors of the surer way of sailing, now practised, try the use of the compass, which succeeds so well, without contemning the antient mariners, who being less skilful directed their course by observing the stars, and the windings of the land? Or why must the more accurate and perfect art either of building ships, or commanding them in engagements, which the inhabitants of the *western* parts of *Europe* are best skill'd in, be a reflection on those ship-carpenters, who built the fleets that engaged at *Actium*; or on *Augustus* and *Mark Anthony*, who were such great commanders both by sea and land? Besides, there are almost numberless examples of things discovered by the moderns, which eminently excel the inventions of the antients, the inventors whereof are no more to be accused of lessening our opinion of the antients, than a son is of lessening the reputation of his father, who, by his prudent management and industry, improves his inheritance.

45. There is likewise another kind of men, who, out of a vain affectation to pass for persons of a superior understanding, plague the world with speculations that do not at all contribute towards the cure of diseases, but rather tend to mislead, than to direct the physician. It should seem that nature has given these men wit enough to reason in a superficial manner about her, but deny'd them judgment to teach them that all the knowledge of her is to be had only from experience; the

H h 3

human

decide in favour of the ancients, and adhere strictly to their opinions in all matters alike, our understanding will lie uncultivated, and reason be of as little use to us in these particulars, as if we had none at all: error may claim prescription from its antiquity, and late-discovered truth be rejected for its novelty; which would be taking so preposterous and irrational a method in cultivating a science, that is to grow up from facts chiefly, and receive its best improvements from vigorous and well-warranted experience, as would certainly and justly be condemned by the considerate and judicious part of mankind.

To draw a parallel between the antients and moderns, I neither intend, nor am able, but right reason requires a just medium to be observed in passing a judgment on either, so as not to betray an obstinate attachment to the antients, or a groundless and partial contempt of the moderns.

human mind being restrained to the narrow limits of knowledge, derivable from the senses. Whence, tho' a man may become as wise as his state will allow, yet no one will ever attain to be a philosopher, at least, in the degree that great name imports. But all the philosophy of a physician consists in searching into the history of diseases, and applying such remedies as experience shews to be curative thereof; observing, as I mentioned elsewhere, the method of cure, which right reason, founded on the trite and natural way of thinking, and not on vain speculations, points out. (q)

P O S T-

(q) The ridiculous vanity of being esteemed persons of a happy invention and prolific genius, has prevail'd with some men in all ages, to launch out into philosophical speculations, and form systems, rather than to illustrate the history of diseases, and establish the methods of cure on a more solid basis, by the more painful way of making new observations, and verifying such as were transmitted by their predecessors.

These men have wholly employ'd themselves in searching into the *minutiae* of anatomy, the latent, remote, and absolutely inexplicable causes of diseases, the shape and bulk of the constituent parts of medicines, and their manner of operating, studying the mathematicks, and endeavouring to account for what passes in the human body, by applying the principles of this science thereto, which in most cases impose upon them, and render matters more obscure and perplex'd than before.

'Tis certain that we have received no innate knowledge of the nature of bodies, or of the invisible and inscrutable causes of natural effects, and it being impossible to find them out by experience, as they do not fall under the notice of the senses, we should look upon them as things absolutely undiscoverable, and an attempt to discover them, a fruitless labour. And indeed the different opinions we meet with in systematic writers upon the same subjects, is of itself sufficient to make us distrust this method of coming at a knowledge of nature, to set lightly by the pretended discoveries hence arising, and to stand continually on our guard to prevent being led into error thereby.

The truly scientific knowledge of a physician consists not only in being able to distinguish diseases from one another, but the symptoms, which require the treatment thereof to be varied, and knowing the properest remedies for curing them, and the manner of prescribing them to the best advantage. A knowledge of all these particulars is so essentially requisite in a physician, that whoever is ignorant of any one of them, tho' he knows every thing else, may be pronounced a bad one, as, on the contrary, another may be reckoned a good one, who is thoroughly acquainted with them, and nothing more. See pag. 45. note (a)

P O S T S C R I P T,

Treating of the causes, signs, and cure of the WINTER-FEVER.

1. **W**ITH the readers leave I will here subjoin an observation of moment, concerning the discovery and cure of fevers, which escap'd my memory, or otherwise had been mentioned in a properer place. I have found a certain fever prevail from the beginning of winter to the middle of spring, which, both in the symptoms and method of cure, manifestly differs from the then reigning *stationary*, or *epidemic* fever of the general constitution, and is therefore to be reckon'd amongst those fevers I call *intercurrents*.

The rise and continuance of the winter-fever.

2. It seems to proceed from the coldness, density and moistness of the air, whence the pores of the skin are closed, and the blood from an obstructed perspiration loaded with a copious *serum*, which, by its long continuance in the vessels, becomes prejudicial, putrefies, and easily raises a fever upon taking cold, or some other slight cause given. And if there be much morbid matter, it occasions such a fever as we have described, under the title of a *bastard peripneumony*. (r) But if there is only a small quantity of morbid matter it only produces the symptoms I proceed to enumerate.

Its causes.

3. (1.) Paroxysms of heat and cold succeed alternately for a day or two after the beginning of the fever; (2.) a pain in the head and limbs, and an universal restlessness accompany it; (3.) the tongue is white; (4.) the pulse much the same as in a healthy person; (5.) the urine turbid and high-coloured, and (6.) blood like that of *pleuritic* persons; (7.) it is also generally attended with a cough, but not with such a difficult respiration, straitness of the breast, and so violent a pain in the head in coughing, as ordinarily happen in a *bastard peripneumony*: Hence this fever has none of the distinguishing and capital symptoms of a *peripneumony*, tho' it differs from this distemper only in degree: I call it the *winter-fever*.

Symptoms.

4. Tho' this fever in the beginning is only attended with the symptoms proceeding from taking cold, yet abundance of pernicious symptoms arise from treating it

All treatment of it produces several bad symptoms.

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(r) See p. 242.

it in an improper manner, which at length prove destructive. For if the patient be confined in bed, and tormented with cardiacs to raise sweat, and carry off the fever, which however is seldom effected, it is frequently accompanied with a delirium, a lethargy, a weak and irregular pulse, a dry tongue, and an eruption of red, and sometimes livid spots. These and the like symptoms, tho' they are reputed by some to proceed from the *malignity* of the disease, as they affect to term it, are in reality to be ascribed to ill treatment. For this fever being naturally highly inflammatory, cordials, and lying always in bed, add to the inflammation of the blood, which hurries and disturbs the spirits, and occasions a translocation of the morbid matter to the brain, and of course increases all the symptoms.

*The method
of cure par-
ticulariz'd.*

5. To cure this fever I endeavour to make a revulsion of the copious *serum* collected by the diminution of insensible perspiration in the winter, by bleeding, and to carry it off by repeated purgation. With this view, as soon as I am call'd, I order nine or ten ounces of blood to be taken away from the arm; and the next day I exhibit my common purging potion.

*A purging
draught.*

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of water to leave three ounces of strain'd liquor, in which dissolve manna and solutive syrup of roses, of each an ounce: mix them together for a purging potion to be taken betimes in the morning.

I repeat this draught twice more, interposing a day between each purgation, provided all the symptoms do not go off before. And in the evening after the operation I give an ounce of *syrup of poppies*, by way of opiate. On the intermediate days of purging, in case of a cough, I prescribe the *pectoral decoction*, and a *linctus* made of fresh drawn oil of sweet almonds, *syrup of maiden hair*, and *syrup of violets* mixt, to be taken between whiles. And to allay the excessive heat of blood, if the fever be very violent, I prescribe an emulsion of the cold seeds, and also the following julap.

Take

Take of the distill'd waters of water lilly, purslain, *A cooling*
and lettice, each four ounces ; syrup of lemons, an *julap.*
ounce and half ; syrup of violets, an ounce : mix them
together for a julap, a draught of which may be drank
at pleasure.

6. In the mean while I order the patient to keep *The regi-*
from bed in the day-time, and to forbear flesh : but *men.*
after the first or second purge, I allow him a draught
of thin chicken broth now and then. It must, how-
ever, be noted, that in case any violent symptom, as a
difficulty of breathing, or a sharp pain in the head in
coughing, shews that this distemper nearly resembles
a *bastard peripneumony*, both bleeding and purging must
be repeated at proper intervals, till the symptoms van-
ish entirely ; and the patient is to be carefully treated
according to the method laid down in our discourse on
that disease. (s) But the fever under consideration is
very seldom so violent, as to require any further eva-
cuation after bleeding once, and purging thrice.----
But enough of this, which, however, I thought pro-
per to mention, that this *winter-fever* might not be
reckon'd a *stationary*, or an *epidemic* fever of any general
constitution ; as being certain abundance of persons have
lost their lives, for want of attending to, or knowing
this particular.

(s) See sect. vi. chap. iv. p. 242.

Schedula Monitoria :

O R, A N

E S S A Y

O N T H E

Rise of a NEW FEVER.

To which is added,

TWO DISSERTATIONS,

One on the PUTRID FEVER, happening
in the confluent SMALL-POX ; and the
other, on voiding Bloody-Urine from
the Stone in the Kidneys.

TO

Dr CHARLES GOODALL,

Fellow of the COLLEGE OF PHYSICIANS.

AS soon as I came to a resolution of publishing my late remarks on the fever of the present constitution, I thought myself obliged to dedicate the performance to you principally, for two reasons. The first is, because you are my intimate friend, and have constantly defended me against all my opponents; not so much for my own sake, as thro' a native generous disposition and great integrity of mind, which induced you to support me in what you was sensible was truth, tho' at a time when most of the faculty exclaimed against me.

I ought not however to be offended with them, nor indeed am I, for as many vile pretenders to the art of medicine, by extolling their fanciful speculations, in order to increase their reputation, have so frequently imposed upon mankind, it is altogether becoming wise and ingenious men not to admit hastily, and without a previous examination, the particulars delivered by me, which were directly opposite to the received method of practice. Notwithstanding this, as I am not less indebted to you, I judged it my duty to make you a public acknowledgment; gratitude being the distinguishing mark of a great and noble soul.

The other reason of my addressing this treatise particularly to you, is the intimate acquaintance and correspondence which hath been between us for several years, whence you must needs be the best judge of the pains I have taken to collect the observations I have already publish'd, relating to the history and cure of various diseases. And tho' they were printed separately, and at the distance of some years from each other, according as I came to the knowledge of them, yet they are, in my opinion, so deficient and imperfect, that I ought rather to be ashamed of than expect any reputation from them. But, however this be, I can at least plead in my own behalf, that tho' the space of thirty years, which I have employed in observing diseases, should seem sufficient to give a person a compleater knowledge of them than I have attained, yet I scruple not to affirm, that tho' the same compass of time is more than enough to perplex the mind with speculative and fictitious reasonings, borrow'd from books, which contribute no more to the cure
of

of diseases, than painting does to the improvement of navigation: yet, four times the number of years would be too little, even for a physician in full practice, to carry every branch of medicine to perfection. I have used my best endeavours to collect the most accurate observations, and sent them to the press without delay, that the public might immediately reap the benefit of them, in case they contained any thing of use: and having thus done my duty, I am perfectly easy in mind, and not at all solicitous what reception my writings may meet with. To this give me leave only to add, that as a person who does not esteem them will do me no prejudice, so, whoever gives them but a single reading will be little the better for them.

But enough of this: and now, worthy sir, let me intreat your kind acceptance of this performance, and look on this address as a proof of the respect I bear you, which others also join with me in, who are less acquainted with your merit than I am. As I have not the least dependance on you, I cannot justly be supposed to flatter you, by openly professing as I do (to speak within compass) that there is not a better physician living, and that I never knew an *honest* man.

It is my wish, that you may outlive me many years, and be at the head of the profession, not so much to raise a fortune for your heirs (which, in comparison with the subsequent reason, betray more of the brute than the man) as to teach mankind the methods of overcoming those difficulties in curing diseases, which have hitherto perplexed the art of medicine, and hindered its improvement. And, in order to this, you may if you think fit, build upon the foundations I have laid, but yet, so as to correct with your usual humanity, the mistakes I may possibly have made in my observations on the history and cure of any particular disease, when any such shall appear manifest to you from a long course of experience. Nor will this be doing the least injury to the memory of one after his decease, who, in his life-time, had nothing more at heart than the improvement of medicine, by whomsoever it was effected, not so much, indeed, by learned discourses on the nature of distempers (of which we have already too many) as by a certain and genuine method of curing them. I take my leave, worthy sir, with intreating you to continue your friendship to me, who will always remain

Your most humble servant,

THO. SYDENHAM.

Schedula Monitoria :

O R,

An ESSAY on the Rise of a NEW FEVER.

I. **T**H O' my declining age, and a constitution much broken, by long illness, might justly excuse me from any great application of mind, yet I cannot but advertise

The rise of a new constitution and fever.

my countrymen of the entrance of a new constitution, which has given rise to a new and very different kind of fever from those which lately prevail'd, nor refrain from endeavouring to procure the health of others, even at the expence of my own.

2. It must be remember'd that intermittent fevers began first in *autumn*, in the year 1677, and increased daily, and became epidemic till they came to their state; and afterwards gradually decreased, so far as in the

Preceded by a sharp frost.

latter years of this constitution to appear so seldom, that they could scarce be reckoned epidemic. (a) And for this reason it must also be observed, that the two last years of this constitution, now in its declension, were respectively attended with a very severe winter, especially the former, *viz.* in 1683, in which the cold was sharper, and lasted longer, than the oldest person living remembered it had done before: for the *Thames* was froze over so hard, as to bear the weight of carts, and booths with different sorts of merchandize, and vast crowds of people. Tho' the cold was neither so severe, nor lasted so long, the following year, namely, in 1684, yet, as soon as it began to thaw in *February* 1685, the fever I intend to treat of here appeared, which I esteem a new sort of fever, and altogether unlike the fever of the eight foregoing years.

When the fever first appeared.

3. Now, whether the change of this constitution is to be ascribed to the alteration of the manifest qualities of the air, which happened during these two winters, I know not, as having observed that no alterations of the sensible qualities of the air, however different, have pro-

Whence the change of the constitution.

(a) See p. 274, 275, par. 10, 11.

produced species of *epidemic* diseases; and that a certain succession of years, tho' they have differed from one another in their outward appearance and temperature, have, notwithstanding, all conspired in producing the same species of *stationary* fevers. Having, therefore, deliberately considered these particulars, I concluded, as I have elsewhere remarked, that the change of a constitution depends principally on some secret and hidden alteration in the bowels of the earth, communicated to the whole atmosphere, or on some influence of the planets. It must, nevertheless, be noted, that upon the departure of the *depuratory* fever some time ago, a severe frost happened in the beginning of winter in 1664, which abated not till towards the middle of *March*, and was soon succeeded by a *pestilential* fever, and, in a short time afterwards, by the *plague* itself. But however this may be, the fever under consideration began at the above-mentioned period of time, namely, in *February* * 1684. has spread itself all over *England*, both last year and this, and been much more epidemic in other places than at *London*.

The author
at first mis-
takes the
species of
this fever.

4. When I was first call'd in this fever, I firmly believed it was not one of that species of fevers I call *stationary*, but rather of the class of *intercurrents*, which happen without distinction in most years: so that I esteemed it the same kind of distemper as the *bastard peripneumony*, which I have described above (b); with this difference only, that the fever was sometimes not attended with those symptoms which characteriz'd and distinguish'd that disease; as (1.) a violent cough; (2.) a severe head-ach in coughing; (3.) a giddiness upon the least motion, and (4.) a great difficulty of breathing; all which are the general attendants of a *bastard peripneumony*. As my bookseller press'd me at that time, to give a new edition of my writings, I judg'd it proper to publish my conjecture by way of postscript, in which I now find I was mistaken; having, indeed, been led into it by the manifest likeness there appeared between this *fever* and the *bastard peripneumony*, which happens now and then every winter: but in the beginning of summer, which season commonly terminated those peripneumonic fevers, this fever still continued, whence,

(b) See sect. vi. chap. iv. p. 242.
* 1685, I think.

whence, soon perceiving my error, I was fully persuaded that this fever was to be referr'd to a new constitution.

5. This fever, from the justest observation I could make, was generally accompanied with these symptoms. *Its symptoms enumerated.*
 (1.) Intervals of heat and cold succeeding each other, and (2.) frequently a pain in the head and limbs; (3.) a pulse not much unlike that of a healthy person; (4.) the blood taken away commonly resembling pleuritic blood; (5.) a cough mostly, which, with the other concomitants of a mild peripneumony, goes off so much the sooner, as the disease comes on at the greater distance from winter; (6.) sometimes a pain in the neck and throat in the beginning of the illness, but not so violent a one as in the quinsy; (7.) tho' the fever be continual, yet it often increases towards night, as if it were a double tertian, or quotidian; (8.) lying always in bed, tho' with few cloths on, is dangerous, for the fever being thereby translated to the brain, a *coma* or phrensy soon succeeds. And, to speak the truth, there is so great a tendency to a phrensy here, that it frequently comes on spontaneously of a sudden, without any such occasion, but rises not to such a height as it does in the small-pox, and other fevers: the patient being rather quietly, than furiously delirious, and talking wildly between whiles. (9.) *Petechiæ*, or eruptions frequently appear, occasioned by an unseasonable use of cordials and a hot regimen, and young persons of a warm constitution are seiz'd with purple spots, which are certain signs of a considerable inflammation, both in this and all other kinds of acute diseases; (10.) and sometimes such spots as are term'd *miliary* eruptions come out all over the surface of the body, appearing much like the measles, only they are reder, and when they go off, do not leave branny scales behind them, as in that disease: tho' these eruptions do sometimes come out spontaneously, yet they are frequently driven out by the warmth of the bed, and cordials; (11.) The tongue is either moist or dry, according to the regimen which hath been used; when dry, it is brown in the middle, and white round the edges; but when moist, it is white and foul. (12.) Sweat, likewise depends upon the regimen; for if that be over-heating, it is in a manner viscous, especially about

the head, and, tho' it flows plentifully and universally, affords little relief; whence it follows, that such sweats are only *symptomatic*, not *critical*. The raising a sweat by medicine in the beginning of the distemper, ordinarily translated the morbid matter, if not to the head, at least to the limbs. But when the fever has seized the head, and the fever prevailed, the signs thereof vanish, only the pulse beats sometimes quick and sometimes slow, at length, however, when the spirits are exceedingly hurried by wrong management, the pulse becomes unequal, with startings of the tendons, and death soon follows.

*How to be
cured.*

6. As to the cure; those signs of the peripneumony which accompanied this fever at its rise, soon after the beginning of winter, convinced me, as I said before, that it was to be referr'd to the class of peripneumonic fevers; and, therefore, I had immediate recourse to that method which I formerly recommended in the cure of a bastard peripneumony, in the postscript of my epistle on the dropsy. And, indeed, this method agreed pretty well with the few patients which my ill state of health suffered me to attend, and others, also, who used it upon my recommendation. Whatever motive it was that induced me to follow this method, as I have since considered the symptoms of this disease, and the temperateness of the last year, which succeeded the two hard winters (especially of the winter season, which, in reality, on account of its mildness, scarce deserved the appellation) it appears manifest to me, that this fever is only a simple inflammation of the blood, and consequently, that the curative indications are to be entirely levell'd at suppressing the inflammation by a suitable method, and proper medicines.

*The method
particulariz'd.*

7. In order to this, I first direct ten ounces of blood to be taken away from the arm, and, in effect, tho' the blood in this fever generally resembles pleuritic blood, yet it does not well bear repeated bleeding. But if a difficult respiration, a violent pain in the head in coughing, and other symptoms of this kind, shew the tendency of this disease to a bastard peripneumony, bleeding and purging are to be repeated, till the symptoms entirely disappear, as we have intimated above,

in

in treating of the latter distemper (c) : and this I would have carefully noted.

8. In the evening I lay a blister between the shoulders, and next morning exhibit this lenitive potion.

Take of tamarinds, half an ounce ; the leaves of senna, two drams ; rhubarb, a dram and half ; boil them together in enough spring-water to three ounces ; in the strained liquor dissolve manna and solutive syrup of roses, each an ounce : mix all together for a draught to be taken early in the morning.

A gentle purging draught.

I order this draught to be given three times, interposing a day between each purgation, and the following, or a like opiate, to be taken at bed-time after the operation.

Take of the distill'd water of cowslips, two ounces ; syrup of white poppies, an ounce ; fresh lemon-juice, two spoonfuls ; mix the whole for a draught.

A composing draught.

This I do to prevent a *coma's* coming on, from the disturbance of the spirits, which purging often occasions by the tumult it raises in the blood and juices of persons in fevers, which symptom yields to opiates, tho' they seem to promote it. For this reason, as I durst not venture to give a purge in the *comatous* fever of 1673, I persisted in the use of glysters, being fully convinc'd that purgatives did then immediately cause a *coma*, which might perhaps have been prevented, if I had thought of administering an opiate after the operation of a cathartic (d).

9. But on the intermediate days of purging, an opiate must not be given at bed-time, for fear of checking, or entirely stopping the operation of the purgative to be taken the next day, which usually happens, tho' it be given late. It is a rule with me, in this, or any other *epidemic* fever, to forbear purging in the beginning or state of the disease, unless bleeding hath been previously used, a neglect of which hath been of fatal consequence to abundance of persons, especially to children, as I have elsewhere observed by way of caution. (e)

I i 2

10. It

(c) See sect. vi. chap. iv. pag. 242.

(d) See sect. v. chap. ii. pag. 190.

(e) See pag. 291, 292, par. 47, 48.

10. It must, nevertheless, be noted, that tho' the above-mentioned evacuations ought in general to be used in the cure of this fever, yet young persons, or especially children, frequently recover after being blood-ed and purged once, and require no more purging, the fever being conquer'd by the first cathartic : whereas on the contrary, it is sometimes necessary to purge oftener than we have intimated above. For it happens, tho' not frequently, that the patient relapses in a few days, after recovering by this method, occasioned by a fresh supply of febrile matter, which, however, is soon carried off by repeating the purgative a fourth time. But a return of this fever, when it is treated by this method, seldom happens, unless it be caused by the *aphthæ*, succeeding the former fever, now come to their height : which fever is, in reality, only symptomatic, and often accompanied with a hiccup at intervals, that continues also some days after the fever, is gone off, and at length ceases spontaneously, as the patient recovers strength ; which is well worth noting, inasmuch as the hiccup happening at the declension of this fever, is no way dangerous, unless several medicines be over-officiously and ineffectually administered, in which case it proves fatal. But both the *aphthæ* and hiccup, or either of them, if they do not go off spontaneously, but prove obstinate, readily yield to the *bark* ; an ounce of it being made into an electuary, or pills, with a sufficient quantity of the *syrup of red poppies*, and taken in the manner I formerly directed in my epistle to Dr Brady, drinking a draught of whey after every dose. (f) I have found this the surest medicine in this case, provided it be not rendered ineffectual by the patient's keeping his bed, which too often happens.

11. On the intermediate days of purging, I sometimes prescribe the following, or the like remedies.

*A cooling
electuary.*

Take of the conserves of wood-sorrel, and of hips, each an ounce ; conserve of barberries, half an ounce ; cream of tartar, a dram ; syrup of lemons enough to make them into an electuary ; of which the quantity of a nutmeg is to be taken thrice a day, with six spoonfuls of the following julap after each dose.

Take

(h) See pag. 279. par. 21.

*Take of the distill'd waters of purslain, lettice, and A cooling
cowslips, each three ounces ; syrup of lemons, an ounce julap.
and half ; syrup of violets, an ounce ; mix the whole
together for a julap.*

Or,

*Take of spring-water, a pint ; the distill'd water of Another.
roses, lemon-juice, and fine sugar, each four ounces :
boil them together over a soft fire, till the scum be
quite clear'd away. Let three ounces of it be taken
at pleasure.*

I add no spirit of vitriol to any of these medicines, tho' it is very cooling, by reason of its remarkable stipticity, whence it is improper in all diseases requiring to be cured by purgatives ; to say nothing here of the mineral nature of this spirit.

12. It frequently happens, especially in the declension of this fever, that the patient, when treated in this manner, sweats now and then spontaneously, in the night, which greatly abates all the symptoms, but notwithstanding, as such sweats are not to be depended on, the above-mentioned method must by no means be discontinued, because, if those sweats should be promoted longer, the fever, which had been in some measure check'd by the preceding purgatives, will increase again.. For, if the sweat be prolonged beyond that space of time, wherein the febrile matter, prepared by due concoction, is entirely carried off, the following sweats will do nothing but raise a fresh inflammation. Hence, tho' those sweats which flowed spontaneously, might, perhaps, be critical, with respect to the expulsion of the febrile matter, fitted to be carried off, yet the subsequent sweats may be only symptomatic, and so do more mischief than good. In short, the gentle warmth of the bed in the night fortunately favours the sweat which flows spontaneously at that time ; and, for this reason, the patient should have no more, nor thicker cloths laid on him than he usually had when in health ; he should forbear all heating medicines, lie later than ordinary the next morning, and afterwards pursue the methods of cure above delivered.

*Sweating
not to be
depended on
in this fe-
ver, and
therefore not
to be pro-
moted.*

The regimen.

13. The diet in this case should be water-gruel, or barley-broth, and now and then, a roasted apple upon occasion, and after the second purge, weak chicken broth. I order small beer to be drank cold for common drink, and the white decoction made by boiling an ounce of burnt hartshorn in three pints of spring water, afterwards straining off the liquor, and sweetening it with fine sugar.

14. I have elsewhere observed, that when the patient hath been twice purged, there is no necessity to restrain him from eating chickens, and the like food of easy digestion; this indulgence being allowable on account of purging, which otherwise could not be granted. Again, after the last purge, provided the fever be somewhat abated, and not yet entirely degenerated into an intermittent fever, three or four spoonfuls of canary may be given every morning, and after dinner, and again in the evening, for some days, which may promote the recovery of the patient's strength, and prevent the fever fits.

Sitting up a days recommended.

15. As this kind of fever is more apt to seize the head than any I ever yet saw, and cannot be removed without great difficulty and danger, I advise my patients to lie without their cloths only a nights; but if they are so much debilitated by the disease that they cannot sit upright, I allow them to lie down upon the bed, or a couch, with their cloths on, and the head a little high: neither do I suffer a greater fire to be kept in the room, than they were used to, whilst in health.

Especially, if the inflammation be violent.

16. This regimen is not only to be strictly follow'd from the beginning, in all that have this fever, except in women seiz'd with it a few days after delivery; but must be indispensibly enjoined, when the patient is attacked with a phrensy, *petechiæ*, purple spots, or any other sign of a violent inflammation, occasioned by an over-heating regimen. For, in this case, neither bleeding, nor covering the patient thinly in bed, nor the use of any kind of cooling liquors will remove the fever, without sitting up in the day-time, inasmuch as the heat of the surrounding air, included in the bed by the coverings, puts the blood into an excessive motion, and the supine posture of the body hurries it violently to the head. But in this fever, when a phrensy comes on from ill management, it cannot be removed immediately, neither is it safe to

at-

attempt the cure by repeated bleeding and purging, beyond the limits prescribed, whereas it will at length go off at its own time, and spontaneously by means of the above-mentioned method. Nothing, however, secunds the removal of this symptom more than shaving the head, and therefore I always order it, without applying a plaister, but only a cap thick enough to supply the loss of the hair, or at least to keep the head warm. By this means the brain is greatly cool'd and refresh'd, so as by degrees to be able to overcome the heat occasioning the phrensy.

17. What hath been said of the phrensy is also applicable to the *coma* succeeding this fever, in which the febrile matter, as it happens in that disorder, is translated to the head, whence, except the whiteness of the tongue, no signs of a fever appear, so that the patient seems perfectly free therefrom. In this disorder, therefore, as well as in the former, the use of purgatives, sudorifics, blisters, and the like remedies, instead of proving effectual, do much hurt: for such evacuations oftener kill than cure here. Having, therefore, previously used the general evacuations of bleeding and purging, the cure of this disorder, tho' it may terrify the attendants, is to be trusted to nature and time. For tho' the patient should be afflicted with a *stupor* for some days, he will, nevertheless, at length recover his health, provided he be not constantly kept in bed, but is suffered to rise in the day-time, and lie down on the bed, or a couch, with his cloths on. In the mean time, however, it is proper to shave the head, and towards the declension of the distemper, to give three or four spoonfuls of canary twice a day: but I have treated of this disorder at large in another place. (g)

18. The physician must not be discouraged from making the above-specified evacuations, tho', upon feeling the pulse, he should perceive a starting, and a convulsive motion of the body, because both bleeding and repeated purging are absolutely required, and do service in some nervous diseases. To prove this, I shall relate what I have experienced in a certain kind of convulsion, which is usually call'd *St Vitus's dance*, of which I have cur'd five persons by bleeding and

I i 4

purging

(g) See sect. v. chap. ii. pag. 191.

purging at intervals. And since this disorder luckily falls in my way, and manifestly confirms the truth of what I have asserted, I shall say something concerning it.

*St Vitus's
dance de-
scribed.*

19. This disorder is a kind of convulsion, which chiefly attacks children of both sexes, from ten to fourteen years of age. It first shews itself by a certain lameness, or rather unsteadiness of one of the legs, which the patient draws after him like an idiot, and afterwards affects the hand of the same side, which, being brought to the breast, or any other part, can by no means be held in the same posture for a moment, but is distorted, or snatch'd by a kind of convulsion into a different posture and place, notwithstanding all possible efforts to the contrary. If a glass of liquor be put into the hand to drink, before the patient can get it to his mouth, he uses a thousand odd gestures; for not being able to carry it in a strait line thereto, because his hand is drawn different ways by the convulsion, as soon as it has happily reached his lips, he throws it suddenly into his mouth, and drinks it very hastily, as if he only meant to divert the spectators. As this disorder appears to me to proceed from some humours thrown upon the nerves, which, by their irritation excite preternatural motions, I conceive that the curative indications are to be wholly directed (1.) to lessen those humours by bleeding and purging, and (2.) to strengthen the nervous system. And to answer these ends, I use the following method. First, I order seven ounces of blood to be taken away from the arm, or such a quantity, whether more or less, as best suits the age of the patient: the next day I exhibit half the quantity, or a little more, of my purging potion; (b) and in the evening give the following draught.

*A composing
draught.*

Take of black-cherry water, an ounce; compound piony water, three drams; Venice treacle, a scruple; liquid laudanum, eight drops, mix them together for a draught.

20. I order the purge to be repeated thrice, with the interposition of a day between each purgation, and the opiate to be given always in the evening after the operation. Afterwards I prescribe bleeding and purging,

(b) See pag. 31. par. 35.

purgings, as before, and thus I bleed and purge alternately, till the patient has been blooded three or four times, and purged after every bleeding, as often as the strength will admit, for it is to be carefully observed, that there must be a sufficient interval allow'd between those evacuations, to prevent the mischievous effects therefrom. On the intermediate days I prescribe the following remedies.

Take of the conserves of roman wormwood, and orange-peel, each an ounce ; conserve of rosemary, half an ounce ; Venice treacle and candied nutmeg, each three drams ; candied ginger, a dram ; syrup of citron-juice enough to make them into an electuary, of which the quantity of a nutmeg is to be taken in the morning, and at five in the afternoon, drinking after each dose five spoonfuls of the following infusion.

Astomachic electuary.

Take of the roots of piony, elecampane, master-wort, and angelica, each an ounce ; the leaves of rue, sage, betony, germander, white hore-hound, and the tops of the lesser centory, each an handful ; juniper berries, six drams ; the peel of two oranges ; slice and infuse them without heat in six pints of canary, and strain it off as you use it.

Acephalic infusion.

Take rue water, four ounces ; compound piony and compound briony water, each an ounce ; syrup of piony, six drams ; mix them for a julap, of which let four spoonfuls be taken every night going to bed, with eight drops of spirit of hartshorn. Apply a plaister of gum caranna, spread on leather, to the soles of the feet.

Acephalic julap.

21. According as the recovery advances, the foot and hand grow more steady, insomuch, that the patient can bring the glass in a more direct line to his mouth, which certainly shews how much better he is. But tho', in order to finish the cure, I do not advise bleeding more than three or four times at most, yet purgative and alterative medicines are to be used till the patient is quite well. And, because such as have once had this disease are subject to a relapse, it is proper to bleed and purge them for some days about the same season the next year, or a little earlier than it first began. And I imagine that the epilepsy in grown persons

persons may yield to the same method, provided the remedies prescribed be properly adapted to the age of the several patients ; tho', having seldom met with this distemper, I have not yet made trial of it. (i) ---- But this by way of digression.--- 22. It

(i) Few writers mention this distemper, nor is it common : for my own part I have never met with an instance of it. Dr *Shaw* in his practice of physic, vol. 1. p. 12. takes notice of it, and esteems it a convulsive disorder, and exhibits the methods of cure as such.

A late author, however, humbly conceives it cannot justly merit this character, but allows it to be a nervous one ; and thinks it, results either from morbid humours in the blood, irritating and stimulating the nerves, in consequence of which, the animal spirits are excited to very irregular, preternatural motions ; or else the animal spirits themselves must be perverted and distemper'd, and thence be subjected to odd, irregular fallies and agitations.

We shall follow this author no further in his reasonings upon the cause of this distemper, as they do not appear entirely satisfactory and conclusive, but proceed to transcribe the cure, as delivered by him.

The proper intentions of cure, says he, are (1.) to warm and comfort the nervous system : (2.) to strengthen and invigorate the animal spirits : (3.) to restore their injured crasis or texture ; and to regulate their actions or motions. Some regard should likewise be had to the blood, lest the disorders of the former should be originally derived from thence.

The blood, therefore, ought to be corrected : all its noxious, stimulating, or irritating particles or humours to be broken, dissolved, or concocted ; and its texture strengthened and confirm'd.

To answer these purposes, he prescribes a course of hysteric or nervous medicines, along with antimonial æthiops, native cinna-bar, the antiscorbutic juices, and a mixture of tincture of hieira picra, steel wine, and elixir of propriety, to be taken every third or fourth morning. And when the cure is completed, or pretty far advanced, observes that exercise and *Spaw* water will be very advisable, either to assist, or prevent a relapse. See a treatise of diseases by Dr Charles Perry, vol. 1. p. 49, & seq.

Dr *Cheyne* calls this disorder a case of *relax'd nerves* ; and delivers the following, as a method of cure which always succeeded with him. To answer the first intention of the general cure, says he, I order'd a vomit (generally I combin'd either the *emetic wine*, with an infusion of the *Ipecacuanha*, or the *tartar emetic*, with the powder of the *root*, (wherein the latter adds certainty and expedition ; the former force and strength to the operation) to be repeated regularly on the same day of the week, for a considerable time, till the distemper began to decline (and then I lengthened its intervals) together with an *anticachectic* diet, already explained. To answer the second intention, I prescrib'd for a month, or six weeks, on all the intermediate days, a large dose of *æthiops mineral*, with bath waters to wash it down. And lastly, after this course finished, to answer the third intention, I gave an electuary of the *bark*, *orange peel*, powder of *acorns*, and *crocus martis astringens*, to brace the nerves inwardly ; and ordered cold bathing every other day, for producing the same effect outwardly ; and the cure seldom exceeded three months. See his essay on the gout, p. 113. sect. 68.

22. It sometimes happens in women subject to hysteric complaints, when the cure hath been attempted by the evacuations above-specified, that the fever continues even after bleeding and repeated purging. And in this case its continuance is manifestly owing to the disturbance of the spirits, occasioned by the evacuations, and, consequently, if there be no signs of a peripneumony or inflammation about the vital parts, the curative indications are only to be levell'd at quieting the tumultuary motion of the spirits: for which purpose a sufficiently powerful opiate must be given every night, and hysteric medicines taken twice or thrice a day. Of this kind are pills made of *galbanum*, *fetid asa*, *castor*, and similar ingredients, and julaps of the same nature, of which I have set down some forms in my treatise on hysteric diseases. Furthermore, to recruit the strength, and suppress the vapours, it is necessary to allow such food, both of the solid and liquid kind, as is most palatable.

23. We have already observed, that this fever in the preceding, but especially in the current year, increased every day towards night, when a fit came on like that of an intermittent. The physicians, therefore, who had learnt from experience, that all such fevers as did in the least intermit, and those frequently which did not, throughout the course of years, from 1677 to the beginning of the year 1685, certainly yielded to the *peruvian* bark, failed not to treat this fever with the same medicine. But, however, rational this procedure was, it nevertheless did not ordinarily succeed so well as in the foregoing years. For having made the strictest search I could into this matter, I found, that tho' the bark was given in great plenty, yet it so seldom cured the distemper, that I should rather ascribe the patient's recovery to some happy termination of it, than to the efficacy of the medicine: so entirely it seem'd to have lost the effectually curative virtue it was possess'd of in the years above specified, at least, in respect of the fever under consideration, which resembles a quotidian. But in a genuine tertian, or an intermittent that comes every other day, the bark does as much good now as it ever did. Hence it clearly follows, that this fever totally differed from the fevers of the preceding constitution,

in-

*The bark
ineffectual
in this fe-
ver.*

inasmuch as the bark avails not at all now, and that it is likewise increased by wine, cordials, and other heating things; which agreed well-enough with the use of the bark, and the fever itself.

*This fever
often shews
itself by
gripings
or vomit-
ing.*

24. It is further to be noted, that this fever, throughout the summer, especially of the present year, wherein it prevail'd, did often shew itself not so much by the distinguishing signs of a fever, as heat and restlessness, but by gripings, sometimes with, and sometimes without a looseness; whilst, notwithstanding the fever of this season lurk'd under this disguise, in which the inflammatory exhalations of the blood were not driven as ordinarily to the habit of the body, but thrown off inwardly by the mesenteric arteries upon the *viscera* of the lower belly, or intestines, and sometimes upon the stomach, by the ramifications of the celiac arteries, which exhalations commonly occasion vomiting, especially soon after drinking, or taking any solid aliment. But tho' this fever lies concealed under the forms of the symptoms above enumerated, it is to be cured by the general method we delivered above in the same manner as if it had appeared in its own shape, and that with respect both to bleeding and repeated purging: only it must be observed, that when the fever affects the stomach so much as to prevent its retaining a draught, the greater *pil. cochia* must be substituted instead of a lenitive potion, two scruples of which always makes its way through the bowels: but the pills must be taken at four in the morning, so that the patient may sleep after them, and at night an opiate exhibited in a large dose, *viz.* a grain and half of solid *London* laudanum, made into two pills, with as much mastich, or eighteen, or twenty drops of liquid laudanum, in an ounce of small cinnamon water, or any other generous vehicle. The stomach being by this means strengthened, and not irritated by the smallness of the quantity, will be less apt to throw it up. But if the purging draught and diacodium can be retained in the stomach, they are to be preferred to the above-mentioned pills and the laudanum, because they produce their effect without heating the body so much as the pills.

25. And now having mentioned the gripes, I must admonish my readers of the great danger which I have frequently found attend the prescribing mineral waters in any kind of gripes, looseness, or vomiting, or any other disorder suspected to proceed from a fever. For in a distemper of so subtle and spirituous a nature as a fever is, mineral waters invert the order of nature to that degree in every particular, that instead of the ordinary attendants of a fever, they occasion quite irregular symptoms, and in the mean time contribute not in the least towards the cure of the fever, as I have learnt from a long course of experience.

26. It must, however, be carefully noted, as it may be a means of snatching abundance of persons from imminent death, that notwithstanding what hath been already delivered, when the gripes degenerate into a confirm'd dysentery, (which, besides the gripes, is attended with a discharge of a slimy matter streak'd with blood downwards) it is apparently very dangerous to treat the disease by the tedious method; which consists (1.) in evacuating the humours, and (2.) in smoothing their acrimony; not to mention the internal use of astringent medicines of various kinds and forms, and the injection of astringent and healing glysters between whiles; having learnt from experience that a dysentery is most expeditiously and certainly cured by checking the flux immediately by *laudanum*. For so violent is this disease, that if purging be continued when it is confirm'd, it is much to be feared it may be increased thereby, and by its wonderful ferment last longer, whatever methods are afterwards us'd, or perhaps, prove fatal.

Mineral waters bad in the gripes attended with a fever.

27. For this reason, as soon as I am call'd to a person in this distemper, I give twenty drops of *liquid laudanum* in *plague-water*, the *wonderful water*, or the like vehicle, and order the dose to be repeated twice in twenty four hours; or oftener, if, being given in this quantity and manner, it suffices not to ease the gripes, and check the bloody discharges downwards. But when these grow thicker, which is the first sign of the approaching recovery, and the symptoms are overcome, I reckon it safest for the patient to persist in the use of the above-mentioned medicine morning and night for some days, lessening the number of drops e-

To be treated with laudanum if they degenerate into a dysentery.

very

very day, till there is no more occasion for them. It must also be carefully observed, that I order the patient to lie longer in bed after taking the opiate, because an erect posture soon disturbs the head, unless sleep be indulged long enough after it.

*The regimen
in this case.*

28. With respect to diet, if the patient hath been used to wine, I allow him canary well diluted with water, in which a crust of bread hath been boiled, which I order to be kept in readiness for this purpose cold in a proper vessel. The white decoction made with burnt hartshorn, boiled in spring water, drank plentifully is also beneficial in this case. Barley, or chicken broth, a poach'd egg, or any thing else of easy digestion, may serve for diet in the beginning of the disease. But afterwards, we may rise by degrees to stronger liquors, and a more copious and solid diet, lest too rigid an emptiness should cause a relapse, or some other symptoms, the effects of inanition. It must, however, be noted here, that tho' *laudanum* alone overcame the dysentery of the present constitution, yet in those years wherein this disease is epidemic, and prevails more than the rest, it should seem proper to use those evacuations, which I have already set down in treating of a dysentery. (k)

*An iliac
passion from
hot medi-
cines in the
beginning
of a fever.*

29. I proceed now to mention another case, where a cure can no more be immediately made by that method which suits the fever whence it proceeds than in the confirm'd dysentery just specified. Thus for instance, the patient is sometimes seiz'd with a chillness and shivering, and fits of heat and cold succeeding by turns, which certainly manifest an approaching fever, violent gripings come on suddenly, occasioned by the speedy translation of the febrile matter to the bowels, and instead of being blooded and purged, according to our former directions, as he ought to be, hath recourse to hot medicines both internals and externals, in order to expel the wind, whence he conjectures the disorder proceeds; 'till at length the pain increases, and being by its long duration deeply fixed in the bowels, begins to cause an inversion of their peristaltic motion, (whereby, according to the law of nature, every thing should be protruded downwards) and a great inclination to vomiting; the disease now terminating in the iliac passion.

In

(k) See sect. iv. chap. 3. pag. 141.

In this case, I say, the physician can pursue the method of cure, which the fever, the primary cause of this symptom requires no further than to order a single bleeding in the arm; inasmuch as purgatives, tho' repeated with the greatest frequency, soon become emetic, and by this means increase the inverted motion of the bowels; neither the strongest cathartics, nor the least part of them, being able to force their way thro' the intestines, and procure a stool.

30. Here, therefore, I conceive it most proper to bleed first in the arm, and an hour or two afterwards to throw up a strong purging glyster; and I know of none so strong as the smoke of tobacco, forced up thro' a large bladder into the bowels by an inverted pipe; which may be repeated after a short interval, if the former does not open a passage downwards. But if the disorder yields not to this remedy, 'tis necessary to give a stronger purgative, tho' the making way by these means be attended with extreme difficulty.

How to be treated.

Take of the pills of two principal ingredients, thirty-five grains; sweet mercury, a scruple; balsam of Peru, enough to make the whole into four pills, to be taken in a spoonful of syrup of violets, drinking nothing after them, for fear of their coming up.

Strong purging pills.

If these pills be thrown up, give twenty-five drops of liquid laudanum in half an ounce of strong cinnamon water immediately, and repeat the dose in a few hours. but as soon as the vomiting and pain of the bowels are abated by this remedy, give the above-mentioned purge again, for it will be kept down by the laudanum now, and at length finish its operation. If the vomiting and pain, however, should return as soon as the effect of the opiate is worn off, and the cathartic lodge in the body, then laying aside all hopes of opening a passage this way, we must return to the use of the opiate before described, and repeat it every fourth, or sixth hour, till the bowels be quite free from pain, and their natural motion downwards of course restor'd, when the cathartic, which had hitherto been stop'd in the body by the opposite motion of the intestines, will operate in the usual manner; tho' the repeated use of opiates should seem to have a contrary effect. An instance

stance of which I met with very lately in a gentleman afflicted with a violent iliac passion, which was afterwards succeeded by *aphthæ*, occasioned by an over-long retention of the morbid humours and rough purgatives in the habit; but they were readily enough cured by the *peruvian* bark, and the frequent use of the following gargarism.

*A cooling
gargarism.*

Take of verjuice half a pint; syrup of rasp-berries, an ounce, and make a gargarism.

31. But when these passages have recover'd their ordinary natural openness, purgatives may be omitted for some days, till the disturbance newly raised in the bowels be entirely quieted, which space of time may be advantageously enough allow'd for diluting, cooling, and smoothing the sharp humours, which being done, if the least signs of a fever still remain, purgatives must be exhibited every other day, as above directed.---And let this suffice for the cure of this disorder.

*Children,
how to be
managed in
this fever.*

32. If a child be seized with this fever, two leeches must be applied behind each ear, and a blister between the shoulders, and it must be purged with an infusion of rhubarb in beer. And if the fever seems to intermit after purging, give the julap made with the *peruvian* bark, above set down. (1)

*Fever from
dentition
cured by
spirit of
marrshorn.*

33. It is further to be noted, that tho' children are as subject to this kind of fever, as grown persons, and consequently ought to be cured by the same method, yet less blood must be taken away according to their age, to which purging likewise ought to be adapted, and perhaps need not be so often used: the distempers of children and young persons frequently yielding to the first or second purge. Nevertheless, it should be well consider'd whether the fever which is treated in this manner does certainly belong to this constitution, or is of a different kind, which ought likewise to be attended to with the same exactness in all constitutions of years. For it is commonly known that children are often seized with fevers proceeding from dentition, which are not easily distinguish'd from those of another kind. And, for my own part, I have been long dissatisfied with respect to the cure of these fevers, nor could I be persuaded, till of late years, that any
of

of those who were committed to my care, were recovered so much by art as by accident, till having been often informed of the success of a medicine not very famous, but rather little esteem'd for being in common use, I likewise order'd it, and found it succeeded better than any I had ever experienced before. The medicine I speak of is three or four drops of *spirit of hartshorn*, according to the age of the child, given in a spoonful or two of *blak-cherry water*, or any proper julap, every four hours, to a fifth or sixth time. (m)

34. Children are subject to another very troublesome disorder, which differs much from the fevers of various constitutions of years, and from that last-mentioned: It is a kind of hectic, which holds them a long time, and they languish with little heat, a loss of appetite, and a wasting of the whole body. In this case I have recourse to the following plain method. I order two drams of good *rhubarb*, slic'd thin, to be infused in a glass vessel well-closed, in a quart of small-beer, or any other liquor which the child uses for common drink, to be drank in the same manner both at meals and at other times. And this being finish'd, I order another quart to be pour'd on the same rhubarb, and this being also drank, I add a third quart of liquor to it, after which the rhubarb

A hectic in children cur'd by an infusion of rhubarb in small beer.

K k loses

(m) The symptoms accompanying dentition should seem to proceed from the tension, puncture, and laceration of the nervous membranes of the gums, because upon dividing them with an instrument to make way for the teeth, they soon cease: Abundance of children die of this disorder.

Spirit of hartshorn, tho' a good medicine in convulsions from dentition, will not always answer the end, as they may proceed from various causes, and consequently require different remedies; and for the same reason it will not always remove the fever. For evacuations are necessary in case of repletion, gentle laxatives in case of costiveness, which often occasions convulsions, and in a looseness, astringents by the mouth and glysterwise, having first given a mild purgative of rhubarb, with a drop or two of any carminative oil: testaceous powders are likewise good here.

Neither are the gums in the mean time to be neglected, but if swell'd, inflamed, thin and whitish on the upper part, to be fomented often with an emollient fomentation, and anointed with a liniment made of sperma ceti, syrup of white poppies, oil of sweet almonds, and a little saffron and nitre; and these not relieving, a passage must be made for the teeth to come out by cutting the gums with a proper instrument. A warm regimen, and heating medicines are prejudicial.

loses its virtue, and the child generally gets well. But lest the first infusion should have too much of the purgative quality of the rhubarb, and operate too strongly, it is better, after having drank half the liquor, immediately to add another pint to the remainder; but no more fresh beer must be afterwards added, till the whole quantity be used. (n)

*Evacuati-
ons not to
be continu-
ed in the fe-
ver under
considera-
tion till the
symptoms go
quite off.*

35. But to return to the fever under consideration, which is that of the present constitution: it must be carefully observed in this kind of fever, in the same manner as in the rheumatism, and several other distempers, only curable by evacuations, that if we obstinately persist in the use of the above-mentioned evacuations, till the symptoms go quite off, the disease will often prove fatal. For it is not uncommon to find some slight symptoms remain a-while, even after the disorder vanishes, which, notwithstanding, do not endanger a relapse, inasmuch as they go off by degrees spontaneously, as the patient recovers. In effect, these symptoms are frequently nothing more than the genuine product of the repeated evacuations, ordered to cure the disease, and partly occasioned by the emptiness proceeding from the slender diet used throughout the course of the cure: all which, when they affect such subjects as are much debilitated, and in a manner worn out with distempers give rise to vapours, as in women, and proceed from the same cause, namely the weakness and low state of the animal spirits. For this reason, therefore, after using such evacuations as are sufficient to remove the disease, a judicious physician ought to forbear the unreasonable use thereof, and wait a-while to see what time will contribute to this end, which frequently proves the best and most successful physician in conquering these slight symptoms; and I have, indeed, often known them go off in

(n) In this disorder it should seem proper to take away blood in a small quantity, and administer testaceous powders, along with salt of wormwood and nitre, in a small dose. The diet should be smooth, nourishing, easy of digestion, and moderately cooling: riding on horseback every day, if the weather will permit, and warm bathing, used between whites, are good assistants in the cure. The infusion of rhubarb is, however, no contemptible medicine, but may not perhaps be sufficient to answer the purpose alone: it may be used occasionally during the course here prescribed.

in the declension of such a disease, without any thing more than an opiate, taken two or three nights running.

36. The method just commended is the best that I have ever tried in curing this fever; and if it fails of effectually removing it, at least brings it to intermit, and then it always yields to the bark. But as purging, as it is here directed, in order to cure this fever, may perhaps seem detrimental to some persons, I assert from experience, that nothing cools so much and so surely, as purging after bleeding, which should be used first in all cases. For tho' a purge, whilst it operates, may, for the present raise a greater commotion in the blood and juices than there was before, and of course increase the fever, yet that mischief will be much over-balanced by the immediately subsequent benefit. For experience shews, that purging after bleeding, checks a fever sooner and better than any other remedy whatsoever, inasmuch as it carries off the foul humours whence the fever originally proceeded, which, supposing them not to have been vitiated before, are at length inflam'd, concocted, and thickened by the heat of the fever, and so contribute to render it more lasting; and likewise, as it makes way for an opiate, which operates with more speed and safety, than if the morbid humours, which might otherwise lessen its virtue, had not been expelled by purging.

The author's method either cures this fever, or brings it to intermit.

37. Whereas, on the contrary, that method which consists in carrying off the febrile matter thro' the pores of the skin, is not only less certain, but more troublesome and tedious, as prolonging the disease several weeks, and brings the patient's life into imminent danger; and, put the case he is at length so happy as to escape death; reduces him to the mortification of taking a multitude of medicines, during the long continuance of the fever, to remove those symptoms which proceed from ill management; by attempting to cure it by an extremely hot regimen and heating medicines, which of its own nature requires the coolest of both kinds. And thus, while men of unsound judgment tie themselves up to follow rules of art, as they are falsely term'd, despising the contradictory testimony of their senses, and perplexing the cure by their hurry and apprehension;

Sweating here less certain and more tedious, and not void of danger.

prehension, they change a disease, which of itself goes off in a little time and easily yields, into a lasting and difficult disorder.

*The method
above re-
commended
best in most
fevers.*

38. For these reasons, therefore, I hope I may with due confidence assert, that the method of cure above delivered, which consists in bleeding and purging, is the most effectual one to conquer most kinds of fevers. Sweating is, indeed, properly speaking, nature's method of expelling the febrile matter, and best adapted to the end, whenever nature unassisted first digests the morbid matter, and, after it is sufficiently concocted, carries it off gently thro' the pores; which successful manner of curing fevers by nature, having been often observed by practical physicians, the theorists thence took occasion to make this rule, *that all fevers may, and ought to be cured only by sweating.*

*Difficulty of
curing fe-
vers by
sweat.*

39. But admitting this conclusion, it is manifest that art, how nearly soever it may seem to imitate nature, cannot always certainly cure fevers by sweat. For (1.) art is unacquainted with the manner of duly preparing the morbid matter for expulsion; and tho' this were no secret, yet there are no certain signs, indicating its due preparation; whence the fittest time of raising a sweat must needs likewise be unknown. And sure none but an obstinate person will deny it highly dangerous to excite sweat inconsiderately, before the due concoction of the febrile matter, as the translating the unconcocted matter to the brain must increase the distemper. Besides, as I have elsewhere observed, the judicious aphorism of *Hippocrates*, viz. "*that concocted and not crude matters are to be evacuated,*" seems to relate more to sweating, procur'd by art, than to purging. For a man must be but little conversant in the practice of physic, not to know what numbers of persons are injured every day by old women and unskilful pretenders to medicine, by this preposterous use of sudorifics; it being customary with them, when a person complains of chilneis and a pain of the head and bones, which are the general fore-runners of a fever, to put him to bed immediately, and use their utmost endeavours to promote sweat. But this ill-tim'd attempt is so far from preventing the fever, which might perhaps have gone off spontaneously, or upon taking away a little blood, that, contrariwise, it is much increased thereby,

thereby, and becomes a lasting and inveterate disease.

40. (2.) It is further to be observed, that as those sweats which appear spontaneously in the beginning of the fever are entirely symptomatic, and not at all critical, so those, likewise, which are forced out at this time by sudorifics, do generally forward the cure no more than the former, which avail nothing to this purpose. (3.) Again, as the proper time of promoting sweat is not known, so neither can we tell how long we should persist in this way; for if the sweat be continued beyond the due time, that is, longer than is requisite to carry off all the morbid matter, the waste of those fluid particles which should serve to dilute and allay the heat of the blood, will be a means of prolonging and encreasing the fever. Hence, therefore, the precariousness of this method appears; whereas, on the contrary, the physician hath it in his power to regulate the other method, which consists in expelling the febrile matter by bleeding and purging, as he shall judge most convenient. (4.) Furthermore, this method deserves the preference for this reason, namely, because it will do no mischief, tho' it should fail of curing; whereas sudorifics are pernicious, unless they complete the cure: for the warmth of the body, when a person hath been kept in bed some time contrary to his usual custom, not to mention cordials, which are always administered in this method of cure, disturbs the animal economy, and causes convulsive motions of the limbs, and other irregular symptoms, which cannot be described, because they do not come under the history of the disease, as is common in several symptoms in all diseases, but proceed originally from the tumult and disorder super-induced, which frequently oppresses nature, when the distemper is treated according to this method: all which are ordinarily ascrib'd to I know not what malignity.

41. The invention of the term, or opinion malignity, has been far more destructive to mankind, than the invention of gun-powder. For, as those fevers are principally entitled malignant, which are found most inflammatory; hence it is physicians have recourse to certain cordials and alexipharmics, in order to expel the imaginary poison by the pores; for so it must be call'd

The mistaken notion of malignity, how fatal to mankind.

Prov'd
from reason.

call'd, unless they had rather trifle about words, than propose in earnest what may be understood ; and upon the same foundation they have adapted the warmest regimen and medicines to those diseases which chiefly required the reverse. We have, indeed, an evident proof of this in the cure of the *Small-pox*, which is one of the most inflammatory diseases, as well as of other fevers ; physicians having, perhaps, been led into this mistake by the *petechiæ*, purple spots, and the like symptoms, which in most subjects proceed originally from an inflammation super-induced upon the blood, already over-heated by the fever : because they seldom come out spontaneously, except in the beginning of the *plague*, or that sort of confluent *small-pox*, attended with the highest inflammation. In this kind, indeed, the purple spots shew themselves in different parts of the body, intermix'd with the eruptions, at their coming out, and are accompanied at the same time with a flux of blood from the lungs, or urinary passages, and a cough, if the fever be so high as to put the blood into a very tumultuary motion, and cause it to burst the vessels, and empty itself into the cavities of the body. And tho' the purple spots in this fever proceed not from such a considerable heat of the blood, as that which occasions such bleedings ; yet they are produced by the same inflammation, with this difference only, that it is not so violent, and when accompanied with such a flux of blood (the only symptom in the *small-pox* which hitherto baffles the art of medicine) easily yield to a cooling regimen.

42. But if it be inferr'd, that there is some malignity in the case, not only from the purple spots, but also from finding the symptoms of the fever milder sometimes than should seem agreeable to its nature, whilst, notwithstanding, the patient is more debilitated than could be expected for the time ; I answer, that all these symptoms only proceed from nature's being in a manner oppress'd and overcome by the first attack of the disease, so as not to be able to raise regular symptoms, adequate to the violence of the fever ; all the appearances being quite irregular. For the animal œconomy being disorder'd, and in a manner destroy'd, the fever is thereby depress'd, which in the true natural order

order generally rises high. I remember to have met with a remarkable instance of this several years ago in a young man I then attended; for tho' he seem'd in a manner expiring, yet the outward parts felt so cool, that I could not persuade the attendants he had a fever, which could not disengage and shew itself clearly, because the vessels were so full as to obstruct the motion of the blood. However, I said, that they would soon find the fever rise high enough upon bleeding him. Accordingly, after taking away a large quantity of blood, as violent a fever appear'd as I ever met with, and did not go off till bleeding had been used three or four times.----And this may suffice, with respect to these particulars.

43. But if the reasons alleg'd be not sufficient to prove the validity of my sentiments of this matter; *Ana exper-*
yet, if experience teaches me that this fever does not *rience.*
readily yield to sweating, it is enough for my purpose, since it is not reasoning, but experience, that shews what sort of fevers will yield to, and ought to be cur'd by sweat, and what kind by other evacuations. And indeed, no judicious person, who is sufficiently acquainted with the nature of men and things would hastily embrace the sentiments of another person, tho' of the greatest authority, in matters of meer speculation, not demonstrable by any certain experiment. A man of this character should reflect, that there is so much difference and subtilty in arguments, that tho' a theory may be propos'd by a person which shall appear to be founded upon such solid reasonings as to command the assent of all that are present; yet, soon after, another person of greater abilities, perhaps, coming to consider the hypothesis that seem'd so well establish'd, shews its inconsistencies, and clearly proves by more cogent arguments, that it is no more than an imaginary notion, not the least trace of it being discoverable in nature, and substitutes a new and seemingly more probable and artful hypothesis in the room of it, which, notwithstanding, meets the same fate as the former, as soon as some third person, as much superior in parts to the second, as he was to the first, stands up to oppose it. And there will be no end of the dispute, till we come at length to him, who is arriv'd at the height of human knowledge: but the

great difficulty of finding this person, and distinguishing him from the rest of mankind, will soon appear to any one, who is not so extravagantly vain, as to lay claim to the character himself. For, as it is no improbable supposition, that there is an almost infinite number of beings in those vast orbs plac'd above us in different parts of the firmament, possess'd of much more penetration than weak men; so it is not certainly known, whether the brain, which is the repository of thought, may not be so formed by nature, that mankind cannot so clearly discover what is absolutely true, as what is best adapted to their nature. But we shall say no more to those physicians, who regulate their practice more by idle speculations, than experience deriv'd from the solid testimony of the senses. (a)

The difference stated between the author's, and the opposite methods, shewing which is best.

44. But if it be objected here, that this fever frequently yields to a quite opposite method to that I have laid down; I answer, that the cure of a disease by a method which is attended with success only now and then in a few instances, differs extremely from that practical method, the efficacy whereof appears both from its recovering greater numbers, and all the practical phenomena happening in the cure. Thus, for instance, abundance of persons have recover'd of the small-pox, notwithstanding their having been treated by a hot regimen and heating medicines; and on the contrary, several have recovered by the opposite method. Now, by what means is this dispute to be decided; and which of the two methods is to be preferred? The surest way of judging in this case, I take to be this: if in pursuing the former method, I should find,

(a) Truth and nature being always the same, to be convinc'd of the vanity of systems, we need only attend to the vast number that have been invented, and the revolutions they have all undergone. Those which prevail at present, were either not invented fifty years ago, or at least were little, or not at all followed at that time; tho' it must be allow'd that nature was the same then she is now: and doubtless these will meet the same fate with those which have gone before them. Upon a close enquiry, it will be found that most of our real knowledge of nature, is the result of observation and experience only; but as to the manner of accounting for her operations, it hath ever chang'd with the times, and will continually do so; so that little stress is to be laid on it, so far as it is unsupported by fact, and the testimony of the senses.

find, that the more I heat the patient, the more I increase the fever, restlessness, delirium, and other symptoms ; and, on the contrary, if it should appear upon being moderately cool'd, that he is so much the calmer and freer from the fever, and other symptoms ; and further, that by keeping the fleshy parts in such a degree of warmth as best suits with the rising and suppuration of the pustules, they grow larger and fuller, than keeping him over-hot. Having, I say, thus stated both cases, I conceive it cannot be doubted which method merits the preference.

45. So likewise, if I find in the fever under consideration, that the more the patient is heated, the more he is disposed not only to a frenzy, purple-spots, *petechiæ*, and the like symptoms ; but further, that the fever by this procedure is attended with all sorts of irregular and violent symptoms : and on the other hand, if it appears that another patient, by treating him according to the method here propos'd, is quite free from these symptoms, reason shews that the latter method of practice is much the best ; tho' both the subjects recover by such different treatment. But if more persons recover by this method than the other, the dispute is so much the more easily determin'd ; which, however, I shall decline affirming, for fear of seeming too partial to my own opinions.

46. And these particulars shall suffice concerning this kind of fever ; how long it will last I know not, and suspect it to be some subtle and spirituous beginning of that depuratory fever, now abolish'd, which the dreadful plague succeeded. In reality, there are some phenomena which rather incline me to embrace this opinion, insomuch as not only intermittent fevers, especially quartans, still continue in a few places ; but likewise, some of those continued fevers do sometimes degenerate into intermittents, especially during this autumn ; not to mention now the fits of this fever towards night, which a little resemble the fits of intermittents : and what further confirms me in this sentiment is, that persons in this disorder are much subject to vomiting. I do not, however, pretend to certainty in this point, for want of knowing how the depuratory fever, began, as I intimated before in the following terms : “ how long this continued fever
had

“ had prevail’d, I cannot say, my time having been
 “ hitherto sufficiently taken up in observing the gene-
 “ ral symptoms of fevers, and not having yet found
 “ that fevers might be distinguish’d with regard to the
 “ various constitutions of different years, or the dif-
 “ ferent seasons of the same year”. (p)

(p) See pag. 14. par. 4.

A DISSERTATION

*Concerning the putrid, or second fever, happening
 in the small-pox.*

1. **A**S my declining age, and the ill state of health I have long labour’d under, may possibly deprive me of the opportunity of publishing some recent observations I have made, (tho’ late in my life) concerning the *second* fever happening in the *small-pox*, it is hop’d the reader will not be displeased to find them added here, tho’ they have not the least relation to the distemper we have just been treating of.

*Wherein
 the distinct
 and confluent
 small-pox
 differ.*

2. I have long since shewn in another place, wherein the great difference consists between the distinct and confluent small-pox; namely, that the former sort is so void of danger, as to stand in need of very little assistance from medicine, the patient recovering spontaneously by the help of nature, unless he happens to promote sweat in the beginning, by lying always in bed. For, as I formerly observed, when a person sweats freely in the distinct small-pox, he thinks himself in a very promising way, as hoping the malignity of the disease will be expell’d by this means thro’ the pores of the skin, and, therefore, diligently promotes the sweat by cordials and a hot regimen, as should seem proper; and he pursues this method the more willingly, because it appear’d to relieve him in the beginning, and agrees better likewise with the ill-grounded opinion of the attendants. But those particles being at length carried off by sweat, which should have contributed to raise the pustules, and swell the face, the consequence is, that the face, which on the eighth day ought

ought to swell, and be inflamed in the intermediate spaces, on the contrary appears sunk, and those spaces white, whilst the pustules yet look red, and continue elevated even after the death of the patient. The sweat, which flow'd freely to this day, ceases spontaneously of a sudden, and cannot be raised again by the warmest cordials; and in the mean time the patient is seiz'd with a delirium, great restlessness, sickness, and a frequency of making urine in small quantities, and dies in a few hours unexpectedly. Whereas he might have recovered, and not been at all endangered, if he had trusted the cure to nature, without confining himself strictly to any regimen. (a)

3. But in the confluent small-pox the case is very different: for tho' this kind does not terrify the attendants so much, and does not in the least endanger life, unless there happens a flux of blood from the lungs, or urinary passages at this juncture, yet afterwards, in the declension of the disease, on those days which I formerly observed were most dangerous, the patient is brought to such an extremity on a sudden, that whether he will live or die appears equally uncertain and precarious.

4. In the number of those days, I reckon the *eleventh* day inclusive from the beginning of the illness, that is, in the mildest, but most common sort of the confluent small-pox, the *fourteenth* in the middle kind, and the *seventeenth* in the worst species, which we frequently meet with; tho', it sometimes, but seldom happens, that the patient survives to the *twenty-first* day; the eruptions continuing so dry and hard to this time, and so deeply fix'd in the flesh, especially in the face, as by no art to be brought to fall off. (b) But the patient seems generally to be first endanger'd on the *eleventh* day, a high fever, attended with restlessness, and other symptoms, coming on then together, which forebode immediate death, and ordinarily prove destructive, unless medicine interposes to prevent it. But if the patient out-lives this day, the *fourteenth* and *seventeenth* are still to be apprehended; a very vehement fit of restlessness comes on also every day towards the evening, during the

The most dangerous days.

(a) See pag. 102. par. 20.

(b) See pag. 334. par. 5.

the intermediate space of time, and there is great difficulty in saving the patient.

*Whence the
greatest
danger in
the confluent
small-
pox.*

5. I have likewise shewn, that the greater or less impending danger in this sort of small-pox, proceeds from hence; namely, that the distinct small-pox is accompanied with fewer *phlegmons*, or tumors with inflammation, of which kind all pustules are when they first appear, whence of course only a small quantity of *pus* is to be taken back into the blood by the circulation, when they begin to suppurate; so that we need not fear the fever's rising too high from this quarter, nature being able to preserve the blood from the taint communicated thereto by so small a quantity of matter. Whereas, in the confluent kind, the greatest part of the body being covered with these phlegmons, which afterwards degenerate into abscesses, so much *pus* is transmitted from the veins into the blood on the above-mentioned days, in which nature generally brings them to their height, or fit ripeness, and such a plenty of putrid *effluvia* insinuate themselves into the mass from the surface of the whole body, now in a manner universally suppurated, that the fever hereby occasioned oppresses nature entirely, and thus the patient dies at length, partly from the fever, and partly from the infection which hath tainted the blood. (c)

*Why a hot
regimen
and cordials
are bad.*

6. Since then the safety of the patient depends, so much on the paucity of the eruptions, and the danger, on the contrary, on the abundance of them, both reason and common sense intimate that a skilful physician ought not to force out the variolous matter in a violent manner, at the beginning of the disease, by a hot regimen and cordials, whence too great an assimilation of the morbid matter lodg'd in the blood is occasion'd, and the whole substance of the body in a manner chang'd into supplies for the disease; but should rather use all his endeavours to suppress so enormous and subtle an inflammation. To answer this purpose, bleeding in the arm is to be first perform'd, if there be the least suspicion that the small-pox, on the point of coming out, will prove of the confluent kind, (1.) either from the patient's being in the prime of life, or (2.) the blood having been inflamed by strong liquors, or (3.) violent pain attacking some part of the body,

*The method
of cure.*

(c) See pag. 335. par. 6, &c.

body, or (4.) lastly, if the distemper be joined with vehement vomiting: and after bleeding a vomit should be given as being conducive to the same end. But as nothing heats the patient so much, and consequently promotes the too copious assimilation of the variolous matter to that degree as lying always in bed, I enjoin him to sit up a-days till the *sixth* day from the beginning of the disease, and the *fourth* from the eruption, when all the pustules appear. (d) After this time I keep him in bed till the disease goes off, but neither allow him to wear more, or warmer cloths, or suffer him to keep a larger fire in his room, than he was accustomed to whilst in health. In the mean time I permit him to drink freely of small beer, and such other cooling liquors as he likes best.

Lying always in bed very prejudicial.

7. But notwithstanding the most cooling regimen be used, the patient will often be seiz'd with heats, a delirium and restlessness, for which reason I order an opiate to be taken every night earlier than ordinary; this distemper being generally attended with a kind of fit, or increase of heat and restlessness towards evening. This is the best method of preventing the appearance of too many pustules (whence the most danger ensues, as I have shewn above) and likewise of promoting their filling after the eruption, as well as their due suppuration afterwards. (e)

Why an opiate is to be given every night.

8. It is nevertheless to be regretted, inasmuch as the youthful part of mankind chiefly perish by this disease, that the patient, who before was in no great danger, is often seiz'd on the *eleventh* day, or some one of these days which I have reckoned the most dangerous in the different sorts of the confluent small-pox, with a high fever, very difficult respiration, and great restlessness, which, these and all other helps hitherto discovered by medicine not availing, suddenly put an end to his life, to the astonishment of his friends, who, till this fatal period, had hopes of his recovery. In this case the physician, having done all he could to prevent it, will exert himself to conquer this sudden violent turn of the disease; in order to which let it be well considered, that this adventitious fever which happens on the

What is to be done when the fever comes on, on the eleventh day.

(d) See pag. 338. par. 12. pag. 343. par. 22. pag. 348. par. 28.

pag. 351. par. 31.

(e) See pag. 353. par. 35, & seq.

It is a putrid fever.

the *eleventh* day in the confluent small-pox, is a quite different distemper from the small-pox and that fever which either precedes the eruption, or arises sometimes from the inflammation of the pustules, or *phlegmons* at the beginning. For, properly speaking, it is only a putrid fever proceeding from the transmission of putrid particles of the pustules, now in a state of supuration, into the blood, which, being prejudicial to nature, at the same time infect the patient, and occasion a very bad fever. (f)

Copious bleeding excellent here.

9. In this case, therefore, any prudent person will esteem those the only proper remedies, which will most effectually check this second fever, which I call putrid: and nothing does this better than plentiful bleeding, which clears the blood of the morbid particles that nourish the disease. Nor is this practice, in my opinion, in the least contra-indicated by the distemper, considering the present state of the eruptions, since, if the patient should die at this period, and be interred, yet the eruptions being crusted, could not strike in, nor grow less. And, in effect, we have nothing to do now with the small-pox, but with the putrid fever, which is a very different disease.

The successfulness of this practice.

10. For these reasons I have had recourse to the following method with success, which I discovered since I published my last observations on the small-pox, neither do I know, or can guess at any other that will so certainly relieve. When, therefore, the patient is threaten'd with immediate death from the uncommon violence of the symptoms without speedy assistance, whether it be on the *eleventh* day, or afterwards, I order ten or twelve ounces of blood to be immediately taken away from that arm, which hath the fewest eruptions, as being the fittest for the operation; for tho' opiates, and sitting up a-days, may be sufficient in the beginning of the disease, without bleeding, to conquer the fit which comes mostly towards evening, yet on these days of the secondary fever plentiful bleeding alone can be safely depended on; this being the sole means of quieting the present tumult. An opiate is, therefore, to be exhibited in a large dose, in the

An opiate to be given in a large dose.

(f) The causes of this fever are clearly, scientifically and amply delivered by Dr. Hillary in the 8th chapter of his excellent essay on the small-pox, to which therefore we refer the reader for abundant information and satisfaction.

the evening, as before, to which we have recourse now, as to an effectual refuge, and it is to be repeated from this time morning and night, and sometimes oftner, as there is occasion. For it must be carefully noted, that the symptoms in some persons are so enormously violent, that an opiate given even in a very large quantity cannot overcome, nor even check them in less than twelve hours; in which case it is indispensibly necessary to repeat the opiate in the same dose every six or eight hours.

II. But as it frequently happens in the declension of the distemper, partly from the nature thereof, and partly from the great virtue of the opiate, which the circumstances manifestly required, that the patient becomes so very costive, as to be in danger of suffocation, and that the fever likewise rises so high as to leave little hopes of recovery, we must suit the remedy to the present exigency. Accordingly, this being the case, less danger will ensue from taking a gentle purge, than from the fever, much increas'd by the retention of the *fæces*. I have successfully order'd here an ounce and half of *lenitive electuary* to be dissolv'd in four ounces of some small distill'd water, for instance, *the distill'd water of succory, or milk-water*, and taken immediately; and tho' this draught may not operate speedily, on account of the usual costiveness in this disease, and also of the long continued use of opiates, yet being administer'd in the morning, it ordinarily gives a few motions before night, but if it should not the opiate must be exhibited in the evening, and indeed earlier, notwithstanding the purge, in case great restlessness, or sickness threaten danger, lest the patient for want of this assistance should perish, whilst the operation of the medicine is waited for. Nor will so mild a purge occasion the least mischief, tho' it should not work at all: so that if it does not answer the expected end the first day, repeat it the next, and the latter dose seconding the former, it will seldom fail the physician. But if it should seem to have procured a sufficient discharge for the present, and the patient grow better thereupon, the second draught may be deferr'd to another time. (g)

Costiveness at this time to be remedied by a gentle purge

May be given with the utmost safety.

12. In

(g) Dr Huxham assures us, that nothing hath succeeded better with him for removing this fever, than repeated purgatives, with the

Bleeding
and purging
may be re-
peated al-
ternately, as
there is oc-
casion.

12. in this manner bleeding and purging may be repeated by intervals, as the fever and restlessness seem to require, till the patient is out of danger. But, with respect to purging, that the mentioning it may not prove much more detrimental than beneficial, let it be carefully remembred, that a purge is not to be exhibited till the declension of the disease, namely on the *thirteenth*, or some subsequent day, and not then, unless some blood hath been taken away upon the first appearance of the second fever. (b)

Spitting of
blood and
bloody-u-
rine, how to
be stopp'd.

13. But in order to complete the method of practice in this disease as far as I am able, I will willingly be at the trouble of communicating a few particulars concerning *spitting of blood*, and *bloody urine*, which happen in the small-pox. Both these hemorrhages, as I observed before, come on at the beginning of the disease, either before the pustules appear, or whilst they only shew themselves in some few places, and in

the addition of *calomel* occasionally, and interposing opiates between whites. I have not only experienced this method, says he, in my own children, but in several other patients, with constant success, and in reality scarce any other remedy avails. See his treatise de aere & morb. epid. p. 37. The philos. transact. No. 390. and Dr Friend's epist. de purgant. &c.

The intention of cure, according to Dr Hillary, are; (1.) to prevent the production and increase of these acrid cacochemical humours, as much as possible. (2.) To hinder the return of the purulent variolous matter from the pustules into the blood. (3.) To correct and change the morbid condition of the fluids, and reduce them as near to their natural state as we can. (4.) To evacuate the redundant quantity of these morbid humours; and (5.) to remove the inflammation, whether general or topical; and to stop the great tendency of the animal juices to putrefaction. To answer these ends, he gives smooth, blunting, cooling liquids plentifully, recommends opening the pustules, uses a cooling glyster in the first, and then exhibits a cooling purge, and observes that a few spoonfuls of a grateful cordial may be given during the operation, to very good purpose, with soft cooling acefcents: he likewise has recourse to bleeding, when necessary, and accurately determines the cases wherein it is to be used. And if the fever, remits or intermits, instead of the bark, which he disapproves, thinks that a suitable purge or two, and a liberal use of *Elixir vitrioli Mynsichti*, with gentle cardiac bitters, may answer the end much better; with a good nutritious diet. See his essay on the small-pox, p. 105. & seq.

(b) Experience shews, that purging may be safely and advantageously used on the *ninth* or *eleventh* day, if the eruptions be then upon the turn, as it is vulgarly term'd, and evacuations be indicated: and sometimes bleeding may be omitted previously thereto, as unnecessary.

in the rest lie thick under the skin, and are of that sort, which would prove most confluent, if one of these symptoms did not cause the distemper to terminate fatally; whilst *purple-spots* appear in the mean time in some parts of the body, and threaten death. But tho' the purple-spots may be removed by duly cooling the blood, yet both *bloody-urine*, and a violent *flux of blood from the lungs*, ordinarily foreshew certain death: nevertheless this dreadful difficulty may likewise be overcome, and life preserved. For as both these symptoms proceed from the vehement inflammation, and of course the exceeding thinness, or dissolv'd state of the blood, such medicines as cool and likewise thicken the blood, by their binding and incrassating quality, admirably check these bleedings. For this reason, after bleeding once plentifully, give an opiate.

Take of distill'd water of red poppies, two ounces; li- *A composing draught.*
quid laudanum, fourteen drops; distill'd vinegar,
three drams; diacodium, half an ounce; mix them
together for a draught. Then let the following, or
the like remedies, be used till the bleeding stops.

Take of the troches of Lemnian earth, Armenian bole, *An astringent powder.*
each a dram; seal'd earth, blood-stone, dragon's
blood, and prepared red coral, each half a dram;
mastich, gum arabic, each a scruple; make them in-
to a fine powder, of which let half a dram be taken
every three hours, in a spoonful of syrup of comfrey,
drinking after it four or five spoonfuls of the follow-
ing julap.

Take of the best distill'd waters of plantain, and oak- *A styptic julap.*
buds, each three ounces; cinnamon water without
spirit, two ounces; syrup of dried roses, an ounce;
spirit of vitriol, enough to give it a moderate tart-
ness; mix the whole for a julap.

In the mean time the opiate above prescrib'd must be given every evening: emulsions also made of the four greater cold seeds, and white poppy seeds, are very beneficial. (i) But after the bleeding is stopp'd, the distemper

Ll

is

(i) Dr Hillary, in these hemorrhages, advises bleeding to such a quantity, as the age and strength of the patient will permit, and

is to be treated in all other respects throughout the course of the cure, according to the method above delivered in our discourse on the small-pox. (k)

14. Before I conclude, let me add, that when I order liquid laudanum, I mean my own laudanum, the preparation of which I have already (l) communicated. And the syrup of poppies or diacodium, I would have made in the following manner.

Syrup of
poppies.

Take of the heads of the white poppy well-dried, fourteen ounces; let them infuse for twenty four hours in a gallon of spring water; then boil them well, and press out the remainder strongly; to which add twenty-four ounces of sugar, and boil them together into a syrup. (m)

I esteem these two preparations the best of their kind; especially the diacodium, an ounce of which will do more service than two of that which is made with green poppy heads, (without pressing the liquor out so strongly) and a large quantity sometimes of the black heads of the wild poppy, which have little virtue. Accordingly, whenever I am not satisfied about the strength of any of these opiates, I usually order in their stead a grain and half, or two grains of *solid LONDON laudanum*, dissolv'd in some proper distill'd water, by which means I avoid making any mistake, and hurting my patient.

A

and the violence of the symptoms require; and that it be repeated, if the pulse rise, as it often does, after the first bleeding. And as we know, proceeds he, that this violent heat, tenuity, and dissolution of the blood may be still more abated, by a prudent and plentiful use of the *mineral acids*, as *Ol. & sp. vitr. ol. sulph. p. camp. Tart. vitriol. &c.* with incrassating restringents.—It will likewise be necessary to procure, if we can, a revulsion from those parts through which the blood is evacuated; if it passes off by urine or stool, besides the relief we may expect from bleeding, warm refreshing fomentations apply'd to the extremities, will cherish the heat, which in this case is mostly too languid, and by relaxing the vessels, diminish the resistance, and solicit a larger quantity of fluids to these parts. See his essay on the small-pox, p. 133, 134, & 136.

(k) See sect. iii. chap. ii. p. 95.

(l) See p. 151. par. 14.

(m) Dr Hillary takes notice that *syr. de mecon.* is the most suitable anodyne in this disease, as it is the softest, and rarefies the least, of any opiate we know of. See his Essay on the small-pox, p. 114.

A DISSERTATION

Concerning of bloody-urine from a stone in the kidneys.

1. **T**HO' it may seem to argue indiscretion to publish an observation which I have experienced in my self alone, yet it is hop'd no equitable person will be displeased with me, who have suffer'd so long and so much from *bloody-urine*, from a stone in the kidneys, for being moved to compassionate those who labour under the same disease, and to communicate those remedies which have given me relief, tho' they may perhaps seem common, and not worthy of notice.

The author's reason for publishing this piece.

2. In the year 1660 I had the longest and severest fit of the gout I ever had in my life, so that I was constrained for two months in the summer season to lie always in, or upon a soft bed, whence towards the close of the fit I began to feel a dull heavy pain, especially in the left kidney, and sometimes, tho' very seldom, in the right. And after the gout went off, the pain in the kidneys remain'd, and attack'd me at intervals, which, tho' it was not very sharp, made me fear the stone; for I had hitherto escap'd those fits, which are attended with severe pain along the ureters, and violent vomiting. But tho' these signs of the stone in the kidney appear'd not hitherto, yet I had reason to believe I had a large stone in one of them, which being too big to pass into the ureters, occasioned the above-mentioned symptoms. And several years afterwards I found I was not mistaken; for having walk'd considerably, and for a long time in the winter season, in 1676, soon after the breaking of a severe frost, I made a bloody-urine directly, and constantly did so whenever I walk'd much, or was carried in a coach over the stones, tho' the horses went slowly; but this symptom did not seize me when I travell'd in a coach in unpav'd roads, how long a journey soever I made.

Fears he hath a large stone in one kidney.

*voids bloody
urine.*

*Uses several reme-
dies inef-
fectually to
relieve
himself.*

3. The urine I voided on these occasions, tho' it look'd very bad at the the time of making, so as to resemble blood, yet soon after it became clear at the top, like natural urine, the blood falling to the bottom by itself in clots. To relieve this disorder, I had a large quantity of blood taken from my arm, and after taking some purges, had recourse to several sorts of cooling incrassating remedies, along with a proper regimen, and carefully forbore all sharp, pungent, and attenuating liquors. But having received no benefit from these and many other remedies, which it would take up too much time to enumerate, and fearing to drive the stone forwards by steel-waters, as suspecting it was too large to be expell'd thereby; I at length lost all hopes of relieving myself by this way, especially having found that some of my acquaintance hastened their death by fruitlessly endeavouring to cure this complaint by such medicines; for which reason I resolv'd to desist from all further trials, unless by way of prevention, by avoiding all motion of the body as much as I could.

*Induc'd to
try manna.*

*His manner
of taking it.*

4. But happening afterwards to recollect the great commendations which some persons have bestow'd on the seed of the ash-tree, for its stone-dissolving, or stone-breaking virtue, I imagin'd, that if the seed had so much virtue, the *manna* thereof might probably have more. For the *manna* which comes to us, according to Mr *Ray*, and other earlier writers, is neither an aerial honey, nor a certain heavenly dew, but rather a liquor ouzing from the leaves, branches, or trunk of the *Calabrian* ash-tree, of the truth of which Mr *Ray* was further satisfied, whilst he was in his travels in *Italy*, by a physician, who frequently gathered manna from the branches and leaves of these trees first closely covered with linnen. Accordingly, to make the trial, I dissolv'd two ounces and half of *manna* in a quart of *whey*, and drank it, and took a little lemon-juice between whites, as well to make it operate more speedily, it being ordinarily a slow purgative, as to render it more agreeable to the stomach. It is hard to express the ease I perceiv'd in the region of the kidneys from this medicine; for tho' the pain was not continual before, yet I felt a troublesome weight. Encourag'd by this good success, I took this purgative every

*Greatly re-
lieved by it.*

every

every week on a set day, for some months, and found a manifest amendment after every purge, till at length I could bear more shaking in a coach, and indeed, continued free from this symptom till last spring, at the beginning of which it return'd, occasioned by my having had the gout severely all the preceding winter, and my inability to motion, whence I was constrained to abate of my ordinary exercise. And now I doubted whether I should have recourse to purging again, as finding that the mildest purge certainly occasion'd a fit of the gout, because the whole substance of my body, in these latter years, had, in a manner, degenerated into nourishment for this distemper. But at length I recollected, that I might safely resume my former method of taking manna once a week, provided I took an opiate in the evening, after the operation, to quiet the tumult rais'd by the purgative. Accordingly, in the morning I drank two ounces and half of *manna* dissolv'd in a quart of *whey*, and at night took sixteen drops of *liquid laudanum* in small-beer; and repeated the manna and laudanum in this manner twice a week, for three weeks. But afterwards I took the manna only once a week, because it discharged such plenty of foul humours, as to leave little fear of the gout. And reason intimating, that if manna was possess'd of any stone-dissolving, or stone-breaking virtue, its efficacy on which I depended, must needs be lessened, in some measure, by so powerful an astringent as laudanum is, I thought it best to omit taking the opiate, as I only purged once a week.

5. I have continued this method for some months, always purging on the same day of the week, and would not upon any account be persuaded to break it. But tho' the pain of my back abated, as formerly, upon taking the first purge, yet soon after repeated purging brought on some symptoms of the gout, and and sometimes affected the limbs, and sometimes the bowels; but laudanum effectually checkt these motions of the distemper. This method, however, having hitherto been successful, I judg'd it proper to continue it, both to prevent the return of the bloody urine, and to carry off a part of the matter that forms the stone. And, in the end, it answered my expectation, having never had this symptom since my first

Seiz'd with the disorder again.

Hath recourse to manna anew, with an opiate at night.

Quits the opiate.

Repeated purging brought on some symptoms of the gout.

But cured his disorder.

publication of this treatise, and therefore I left off the manna entirely.

The author
retracts a
former opi-
nion of his
concerning
purging.

6. With respect to purging, therefore, in case of bloody urine, and provided only manna be used according to the method above deliver'd, I must retract an assertion I formerly publish'd in my treatise on the gout, namely, *that it is absolutely improper to purge gouty persons either at the beginning, declension, or in the intervals of the fits.* For I did not then recollect that the fit which I fear'd might be occasioned by the purgative, might be prevented by giving an opiate at night. Nevertheless, if the gout only be attended to, all manner of evacuations are very pernicious therein, and therefore not to be used, unless the above-mentioned symptom requires them. (a)

7. To

(a) See p. 429. par. 22. & seq.

I have known, says Dr Cheyne, some eminent physicians, that have had so little regard to Sydenham's opinion in this matter, that in the fit of the gout itself, at whatever time it happened, they never scrupled to drive it off, both from themselves and others, by strong, quick, and active purges, which they repeated every morning whilst the fit continued, and at night quieted the tumults they excited, and expelled the gouty humours, introduced into the habit by them, with cordial and warm medicines, mix'd with opiates. This method they continued till the pain was gone, and the tumour subsided. And to prevent its return, carry off all the remaining goutish humours, and to strengthen the habit, they persu'd gentle stomach purges, aromatick diluters, and warm alteratives, till a strong constitution was obtain'd: and most certain it is, that this method will cure any fit of the gout, how obstinate soever, and that in a few days. The reasons they gave for this procedure, was, that by such a method, inflammatory rheumatisms (of the nature of which the gout was) erysipela's, scirrhus, and even hot tumours, were safely, quickly and certainly (without relapses or danger) carry'd off; and that the danger arising in common practice from purging off a fit of the gout, was, that care was not taken, to prevent its returning, or its falling on some other noble parts, by continuing these gentler warm purges, diluters, alteratives, and strengtheners, to carry off intirely the gouty remains, to sweeten the sharp humours, and to strengthen the relax'd solids. But this I mention only to illustrate and confirm my advice, of gentle stomach purges, in the intervals of the gout. For I am of opinion, that the most dangerous and active part of the gouty humour, is a great deal too subtil (tho' an humour certainly it must be) to be carried off by any gross evacuation whatsoever. And many fatal experiences have confirmed the danger of tampering after such a manner (whatever authority it may have to defend it, or specious reasons to enforce it) to suffer any cautious person to venture upon it. See his essay on the gout, p. 34. & seq.

7. To these observations I will add a few particulars, relating to the regimen and diet, which should seem proper in both these distempers; for I would not omit mentioning any thing that may be serviceable to persons in my condition. In the morning, after I rise, I drink a dish or two of tea, then I go out in my coach till noon, and at my return home dine moderately upon any kind of meat I like, that is easy of digestion: for moderation is principally necessary. I drink a little more than a quarter of a pint of canary immediately after dinner every day, to promote digestion, and drive the gout from my bowels. In the afternoon I go out again in my coach, and, when business permits, take a turn into the country two or three miles for good air. A draught of small-beer serves me instead of a supper; and I drink another draught after I am in bed, and about to compose my self to sleep, in order to dilute and cool the hot and acrid humours lodg'd in the kidneys, which breed the stone. I always prefer small-beer brew'd with hops, to that which has none, because, tho' unhopp'd small-beer is smoother and softer, and so better suited to bring away the stone from the kidneys, yet that which is brewed with hops, on account of the stypticity it receives from the hops, is less apt to breed gravel and calculous matter, than that which has none, as being more viscid and slimy. On my purging day I dine upon a chicken, and, notwithstanding, drink my canary as usual. I go to bed early, especially in the winter season; this being one of the best helps for promoting digestion, and preserving the proper order of nature: whereas, on the contrary, sitting up late weakens all the digestive faculties in aged persons afflicted with any chronic disease, and injures their vital principle to a degree, not to be easily remedied. And to prevent bloody-urine from the stone, whenever I am obliged to go very far in my coach upon the stones (for the longest journey in unpav'd roads does me not the least hurt) I always drink a large draught of small beer before I set out, and another in the way, if I am abroad a considerable time; by which means I secure myself pretty well from bloody-urine.

*His way of living.**Condemns sitting & late.*

Attack'd
sometimes
with the
gout in-
wardly.

His method
of relieving
himself,

Apologizes
for talking
so much of
himself.

Danger of
taking
manna dis-
solv'd in
the purging
waters in
the gout
and stone.

8. But with respect to the gout, I will add one observation, which is this: of late years, the gouty matter sometimes strikes in, occasion'd by some error in the non-naturals, the signs of which are great sickness, with vomiting, and a slight pain of the belly, whilst the limbs at the same time are suddenly freed from pain, and better dispos'd to motion than ordinary. In this case I drink a gallon of posset-drink, or small-beer, and, after having discharged it upwards, take a small draught of *canary*, with eighteen drops of *liquid laudanum* in it, and compose my self to sleep: and by this method I have several times saved my self from imminent death. (b)

9. Tho' it may perhaps seem absurd, especially in a person whose life or death is of little moment, to mention himself so frequently, yet my intention in communicating these particulars is to serve others, whose lives and health are probably of greater value.

10. Lastly, we are to take notice of the great danger which some persons who have the gout and stone run, by unadvisedly taking manna dissolv'd in the purging mineral waters; for tho' being taken this way, it works quicker, and sits easier on the stomach, yet

(b) Dr *Cheyne* tells us, that slight touches of the *gout* in the stomach, which seems to have been our author's case, will yield to any little stomach purge; but adds, that it is more obstinate towards the decline of life; when it settles in a constant pain, nauseating and kecking in the stomach. Vomits are reckoned dangerous in the *gout*, lest they should derive the humour on the stomach: but there can be no room for such a suspicion here, wherefore, upon the first seizure of the stomach, a vomit is instantly to be administered, and repeated, according to the occasion of the case: after that tincture of *hiera picra*, with compound spirit of *lavender*, and a few drops of tincture of *snakeweed*, and tincture of *diambra*, with a hot *sinapism*, or blister on the ancles: and, last of all, the highest cordials, and most generous wines may be freely indulged, without fear of inflammation. Among the cordials, I would recommend the *Electuarium de ovo*, as containing *camphir* (the most constant and active *diaphoretic*, and the most useful one for that purpose) and some other of the richest cordials. After all this management, should the *gout* still continue in the stomach, and become habitual (which is seldom does after such a method taken in time) nothing but a long course of the *Bath* waters, with *steel*, bitters, and gentle stomach purges, a regular diet, and proper exercise, can effectually cure it. See his essay on the *gout*, p. 76, 77. See pag. 457. the note (t).

Opiates are to be used with great caution, and very sparingly, for fear of weakening the inward parts, and fixing the pain, which they are apt to do, if indulg'd too freely.

yet these inconsiderable advantages are no equivalent for the mischief otherwise occasioned by the waters. For if the stone in the kidneys be too large to be forced thro' the ureters into the bladder, these waters generally occasion a fit, which continues, not without endangering the life of the patient, till the stone gets back again into the *pelvis*. Steel waters, likewise are unsafe, unless it be certainly known beforehand, that the stone is small enough either to slip, or force its way thro' the ureters; which, to the best of my judgment, can only be learnt with certainty from hence; *viz.* if the patient hath already had a fit of the stone, (which consists in a very sharp pain in one of the kidneys, extending thro' the whole duct of the ureters, and accompanied with violent vomiting) he may be assured that the *pelvis*, instead of having a large stone in it, rather contains a number of small stones, one of which will fall occasionally into the ureters, and cause a fit, which generally lasts till it is forc'd into the bladder. In this case, I say, there is no better remedy either to prevent the increase of small-stones, or to expel them from the kidneys, than drinking steel-waters plentifully every summer. (c)

Steel-waters recommended in these diseases.

II. But

(c) Mrs Stephens's medicines have justly deserved so superior and general a character for these purposes, from the numerous successful trials which have been made of them, most of which have been attested by persons of great judgment, and undeniable veracity, that I cannot help recommending them warmly to those who are unhappily afflicted with the stone, and at the same time declaring for their better encouragement, that I am thoroughly satisfied of their excellency and usefulness in this painful distemper, not a few instances of their good effects having fallen under my own observation. But for fuller information the reader is desired to consult the following pamphlets lately publish'd, and we doubt not he will be abundantly convinced that we have advanced nothing more concerning these medicines than is strictly true, and become a promoter of so very useful and valuable a discovery. See *A View of the present evidence for and against Mrs Stephens's medicines, as a solvent for the stone.* By Dr Hartley. Printed for S. Harding in St Martin's Lane, 1739. — *An account of some experiments and observations on Mrs Stephens's medicines for dissolving the stone.* By Stephen Hales, D. D. F. R. S. Printed for T. Woodward in Fleet-street. — *An account of the remedy for the stone &c. extracted from the examinations of it given into the royal academy at Paris, by Mess. Morand and Geoffroy.* By Richard Gem, of the university of Cambridge. Printed for J. Roberts in Warwick-lane 1741. — *De lithonriptico a Johanna Stephens nuper invento dissertatio epistolaris.* Auctore Davide Hart-

*A fit of the
stone, how to
be treated.*

II. But as persons may often be seiz'd with a fit of the stone, when these waters are either not procurable, or at an improper season for drinking them, they are to be treated according to the following short and plain method. The patient being sanguine and not aged, take ten ounces of blood away from the arm of the pain'd side, then let a gallon of *posset-drink*, in which two ounces of the *roots of marsh-mallows* have been boil'd, be drank with the utmost expedition, and the following glyster injected.

*An emolli-
ent glyster.*

Take of the roots of marsh-mallows and the white lilly, each an ounce; the leaves of mallows, pellitory of the wall, bear's breech, and camomile flowers, each an handful; the seeds of flax and fenugreek, each half an ounce; boil them together in a sufficient quantity of water to a pint and half; in the strain'd liquor dissolve brown sugar and syrup of marsh-mallows, each two ounces: mix the whole for a glyster.

When the patient has thrown up the posset-drink, and the glyster done working, give a sufficiently large dose of *liquid laudanum*, for instance, twenty five drops, or fifteen or sixteen grains of MATTHEW'S pill. But bleeding is not to be used in aged persons, worn out by some inveterate chronic disease, and antient women, subject to the vapours, especially if they void black gravelly urine at the beginning of the fit: nevertheless, in other respects, this method must be closely follow'd.

12. But

Hartley. A. M. & R. S. S. Lugduni Batavorum. apud Verbeek 1741.

It must be observ'd, however, that these medicines are not proper in a fit of the stone, which is best relieved by bleeding, gentle purging, emollient and turpentine glysters, warm bathing, and emollient lubricating liquors, with nitre dissolv'd in them, drank freely; and opiates, in case of great weakness and violent pain, and an unsuccessful trial of other things.

If these medicines were taken for a sufficient time in the gout, they might probably lessen the cause of the fits, and perhaps entirely remove the distemper; and being so safe, as rather mending than impairing the general health in most persons, it were worth while to make the trial.

12. But to return to the stone, supposing it a large one, which is our present subject: if the patient hath never had a fit, on account of the stone's being too large to quit the *pelvis*; steel waters will not only do no service, but cannot be used without immediate danger, for the reasons above-mentioned. Nor do mineral waters succeed better in gouty persons, if they be advanced in years, as such mostly are, and withal of a weak and phlegmatic constitution; the strength of nature being sometimes impair'd to that degree in such subjects, as to give great reason to apprehend the total loss thereof from such a quantity of water. But whether the ill consequences, happening to persons of this constitution, proceed from this, or some, other cause, I am thoroughly persuaded that abundance of persons, who have been extremely debilitated, and in a manner worn out by this distemper, have been destroy'd by these waters.

Steel-waters pernicious in case of a large stone, and in the gout.

13. And this is in a manner all I have discovered concerning the cure of diseases to the present day, *September the 29th, 1686.*

Processus Integri:

O R,

Complete Methods

O F

CURING most DISEASES.

To which are added,

An accurate Description of their several
SYMPTOMS,

Many good OBSERVATIONS,

A N D

A short TREATISE of a CONSUMPTION.

W. H. H. H. H.

W. H. H. H. H.

W. H. H. H. H.

W. H. H. H. H.

W. H. H. H. H.

W. H. H. H. H.

W. H. H. H. H.

P R E F A C E.

THE reader is here presented with a specimen of practice, drawn up with great thought and care, and written with his own hand, for the use of his son, a physician, and given me by the excellent SYDENHAM: a man who hath had few competitors in any former age, and will be equal'd by few in any succeeding one; who was no less eminent for his wonderful sagacity and penetration, than his probity and remarkable benevolence to mankind, so that he is universally held in high esteem; whose rules, tho' they are deeply imprinted in my mind, for fear, thro' some accident, they should slip my weak memory, both to my own and the detriment of the deceas'd, I sent to the press, and caus'd about twenty copies of them to be printed to oblige my friends. How this piece came to be publish'd amongst the miscellanea curiosa, printed last year at Nuremburg, I know not: but it is now put into such a dress as to render it every way useful, as containing no superficial reasonings, or groundless hypotheses; so that it describes diseases in a familiar and accurate manner, and exhibits the best methods of cure; the sole scope of the work being to shew what nature is able to perform and bear. And to say the truth, provided a person know the structure of the parts, diseases will discover themselves by their symptoms, which may be learnt from diligent observation, and he will thence be taught to apply the true and genuine method of cure, by diet and medicine, and become a successful practitioner.

It is of little significance, whether an alcali or an acid offends, or the disease be seated in the animal spirits, or the blood, or in some hidden bowel, in order to discourse pretty learnedly and amply of the periodic return of intermittents; whilst the fever in the mean time plainly discovers itself even to the attendants on the sick, by the restlessness, thirst, heat, quick pulse, reachings, and other symptoms. Hence I have often wonder'd, why physicians of great judgment and full practice, solicitously endeavour to come at the immediate and proximate causes of disorders, and bring them from that obscurity which nature has involv'd them in, unconscious in the mean
time

P R E F A C E.

time of their inability to account for some obvious appearances ; as, for instance, whence proceeds the greenness of grass, the whiteness of snow. It were better to personate the physician than the philosopher (for who would have Cartesius for his physician ?) so as duly and clearly to enumerate the least phenomena, and candidly and faithfully to deliver the most effectual remedies, for the cure of every particular disease. By this means the art of medicine, being no longer confined in too narrow limits, will eminently promote the health of mankind, and cause its professor to be had in the highest esteem.

Our judicious author, not long before his death, intended to have given us a treatise of a consumption. He was always industriously solicitous in searching after nature's method of curing diseases, that he might give his assistance, and alleviate the miseries of mankind ; and hence he improv'd practice from experience, with a number of well-grounded observations : but, to the misfortune of the consumptive, whilst he persued these studies without intermission, the debilitated spirits forsook their ordinary posts, and the gout, which he had been afflicted with several years, and had weakened his limbs, struck in upon the bowels, and occasioned a violent vomiting and looseness, which endangered his life. But the prince of physicians yielded not to one disease, for to this succeeded the stone in the kidneys, which having corroded the mouths of the vessels, he voided more bloody-urine than old age could bear, so that suffering the disorder to take its course, being neither desirous of life nor death, it carried him off. But not to deprive the consumptive of help, we have publish'd such fragments, which every where discover their author, and may be serviceable in the first stage of a consumption ; that from this sketch it may appear, how accurate and complete a treatise of consumptions we might have expected from him, had providence permitted him to live to finish it.

How skilful he was in curing fevers, the small-pox, the measles, and all other acute and chronic diseases, the following sheets will shew. The propereſt regimen and diet are every where directed, only a few necessary remedies are prescribed, and such as are neither invented to enrich the apothecary, nor compounded out of vain ostentation. He allow'd his thirsty patients to quench their thirst, as he did his, by drinking small beer freely at pleasure, which wonderfully refresh'd and cool'd them ; and did not cruelly
stop

P R E F A C E.

stop his ears to their entreaties, and substitute nauseous apozems and julaps instead of it. He was very careful to prevent their being more heated, who were already too hot, either by making a large fire in the room, heaping too many cloths on them, or giving them remedies to carry off the crude and yet unconcocted matter by the pores, which being by this means put in motion, flies to the brain, and occasions a phrensy, or coma, or from the extravasation of the blood, cover the breast with purple spots, or what are termed miliar eruptions. Can the history of the small-pox be written in a more masterly manner than he has done it? He marks the day of the eruption in both sorts, and exactly describes the nature of the pustules: he tells us when the salivation begins, and how long it lasts; in what manner the swelling of the face and hands appears, and plainly intimates what is to be expected every day. He was the first who advised the use of opiates in this distemper, with what advantage, is best known to physicians, and who justly condemn'd the practice of giving cordials before the eruption, which often occasion'd a confluent kind of small-pox. But these particulars will be better learnt from his own writings; wherefore I take my leave of the reader, desiring him to overlook whatever errors he may meet with in this performance.

S. M.

The Prescriptions most frequently used by the A U T H O R.

The common purging potion.

TAKE of tamarinds, half an ounce; senna, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of spring-water to three ounces; in the strain'd liquor dissolve manna and solutive syrup of roses, of each one ounce: mix the whole for a potion.

The common vomit.

Take of the distill'd water of holy thistle, two ounces; the infusion of the saffron of metals, an ounce; syrup of cloves, half an ounce; mix them together for a vomit, to be taken at four in the afternoon, drinking a large draught of posset-drink after every puke.

The pearl julap.

Take of the distill'd waters of black cherries and milk, each three ounces; small cinnamon water, an ounce; prepar'd pearls a dram and half; fine sugar, enough to sweeten it; and rose water, half a dram: mix all together for a julap; of which let the patient take four or five spoonfuls when he is faint.

The cordial julap.

Take of the distill'd waters of black cherries, and milk, each three ounces; plague water, syrup of cloves, and the juice of citron, each half an ounce; mix them for a julap, a few spoonfuls of which are to be taken often.

The dietetic decoction.

Take of the roots of sarsaparilla, six ounces; sassafras and china, each two ounces; liquorice-root, an ounce; boil them together in two gallons of spring-water for half an hour; then let them stand close cover'd upon hot ashes, twelve hours, afterwards boil them again till one third of the liquor is evaporated; and upon removing it from the fire, infuse therein

therein half an ounce of aniseeds, for two hours ; then strain it off ; lastly, pour off the decoction, after it is clarify'd by standing, into bottles, in which let it be kept well cork'd for use.----It is to be drunk for thirty days for common drink.

The opening and antiscorbutic apozem.

Take of the roots of grass, succory, fennel, and sparagus, of each an ounce; currants and raisins stoned, each two ounces; the leaves of liverwort, hart's-tongue, and maiden hair, each one handful; the leaves of brook-lime, added towards the end, two handfuls; boil them together in a sufficient quantity of spring-water to a quart, and towards the end of the operation add half a pint of rhenish wine; strain off the decoction, in which, whilst hot, infuse in a close vessel for two hours an handful of the leaves of garden scurvy-grass, then having strained off the liquor again, add to it syrup of the five opening roots, and of the juice of oranges, each two ounces; small cinnamon water, an ounce: mix the whole together for an apozem, to be taken in the quantity of half a pint at a time, in the morning, and at five in the afternoon, for a fortnight.

The thickening linctus for a cough.

Take of oil of sweet almonds, an ounce; syrup of red poppies, of purslain, and of jubebs, and the healing loboch, each half an ounce; white sugar a sufficient quantity; and make thereof a loboch or linctus, according to art: to be taken frequently off a liquorice stick.

A more thickening linctus.

Take of the conserve of red roses, syrup of violets, and of white poppies, each an ounce; white poppy-seeds, three drams; beat them thro' a hair sieve; then add oil of nutmegs by expression, six drops: mix and make a loboch.

For a thin tickling cough.

Take of the conserve of red roses, two ounces ; syrup
of white poppies, and of jujubs, each an ounce ; oli-
M m 2 banum.

Prescriptions most used by the Author.

banum, mastich and amber, in fine powder, each a dram; oil of nutmegs by expression: mix them together for a lohoch; a small quantity of which is to be taken often, and swallow'd slowly.----And let a spoonful of it be taken twice a day with eight, ten, or twelve drops, of balsam of sulphur, with oil of aniseed.

Purging ale.

Take of the polypody of the oak, a pound; monk's rhubarb, the leaves of senna, and stoned raisins, each half a pound; rhubarb, slic'd, and horse-raddish root, each three ounces; the leaves of garden scurvy-grass and sage, each four handfuls; four oranges slic'd; infuse them together in five or six gallons of ale, whilst it works; and when it is fit to drink, let it be used for common drink for a fortnight, or three weeks, drinking a draught of it every morning especially.

The hysteric plaister.

Take of galbanum (dissolv'd in tincture of castor, and strain'd off) three drams; tacamahac, two drams; make a plaister thereof, to be spread on leather, and applied to the navel.

The purging medicine for very young children.

Take a small spoonful of the syrup of succory, with rhubarb, and give it the child.

The bitter purgative decoction.

Take of the bitter decoction, made with a double quantity of senna, four ounces; syrup of buckthorn, an ounce; the electuary of the juice of roses, two drams: mix them together for a draught.

Processus Integri :

O R,

Complete METHODS of curing most DISEASES.

Of that disorder which is called the hysteric passion in women, and the hypochondriac disease in men.

I. **W**HEN the mind is disquieted by some great misfortune, the animal spirits run into irregular motions, a copious transparent urine is voided between whiles, the patients give up all hopes of recovery, and presage the worst evils to themselves. Whatever part of the Body the distemper attacks, and it affects several, it soon produces the symptoms peculiar thereto. Thus, when it seizes the head immediately after a difficult delivery, it occasions an apoplexy, which terminates in a palsy of one side. Sometimes it causes convulsions, much like an epilepsy, and appearing in this manner it is commonly term'd the strangulation of the womb, which is accompanied with a rising of the *viscera* and *præcordia* into the throat. Sometimes the patient is seiz'd with the *clavis hystericus*, which is a sharp pain in a part of the head, no larger than a thumb's breadth, and is attended with a vomiting of green matter, not unlike *porraceous* bile.

2. The fit likewise counterfeits a palpitation of the heart, a cough, the cholic, the iliac passion, the stone, and a suppression of urine, and sometimes causes enormous vomitings and a looseness. Outwardly, in the fleshy parts it sometimes occasions pains, and sometimes a swelling, which in the legs resembles a dropsy. It also attacks the teeth, and the external parts frequently feel as cold as a corpse, the patients laugh or cry without the least provocation, and sometimes spit so plentifully, that one would suspect they had been anointed with mercurial ointment. Whatever part hysteric pains affect, they always leave it so tender upon their going off, that it cannot bear to be touch'd, as if the flesh had been beaten with stripes.

3. Let eight ounces of blood be taken away, and a galbanum plaister applied to the navel; and next morning let the patient begin to take the following medicines.

Take of the greater Pil. cochiaë, two drams; castor powder'd, two grains; balsam of Peru, three drops; make the whole into twelve pills, of which let four be taken every morning, or every second morning, (according to the strength of the patient) at four or five o' clock, sleeping after them.

Take of the distilled water of rue, four ounces; compound brieny water, two ounces; castor (tied up in a piece of linnen, and suspended in the vial) half a dram; fine sugar, enough to sweeten the whole; mix them for a julap, of which let four or five spoonfuls be taken whenever the patient is faint.

4. After finishing these pills, let the following medicines be used,

Take of the filings of iron, eight grains; extract of wormwood enough to make it into three pills, to be taken early in the morning, and at five in the afternoon for the space of thirty days, drinking after each dose a draught of wormwood wine.

5. If a bolus is more desirable,

Take of the conserve of roman wormwood, and of orange-peel, each an ounce; candied angelica and nutmeg, and Venice treacle, each half an ounce; compound powder of wake-robin, three drams; candied ginger, two drams; syrup of citron juice, or, in defect of it, syrup of orange-peel, enough to make the whole into an electuary.

Take of this electuary, two drams; the filings of iron, eight grains; syrup of orange-peel, enough to make them into a bolus, to be taken morning and night, with a draught of wormwood wine, or six spoonfuls of the following infusion after it.

Take

Take of the roots of angelica, elecampane and masterwort, each an ounce ; the leaves of common wormwood, the lesser centory, horehound, and germander, each an handful ; the peel of two oranges, sliced thin ; put thereon as much canary as will float the breadth of two fingers above it ; let the tincture be strain'd off as it is wanted.

6. In weakly constitutions steel may be exhibited in powder, according to the following form.

Take of iron-filings, finely powder'd, an ounce ; compound powder of wake-robin, six drams ; the seeds of coriander, anise, and sweet fennel, each half an ounce ; cinnamon, and red coral prepar'd, each three drams ; nutmeg, two drams ; make them into a fine powder, to which add fine sugar, an equal weight with all the foregoing.

Half a dram of this powder is to be taken twice a day, for the space of four days, and afterwards a dram twice a day, for the space of forty days, drinking after each dose six spoonfuls of the following julap, or as much wormwood wine.

Take of milk-water, twelve ounces ; compound gentian water, four ounces ; the greater compound wormwood water, two ounces ; fine sugar, enough to sweeten it, mix them for a julap.

Or,

Take of Rhenish wine, in which wormwood has been infused, half a pint ; compound gentian water, two ounces ; syrup of clove-juby flowers, an ounce ; mix them for a julap.

Take of fine myrrh, galbanum and fetid asa, each a dram ; castor, half a dram : balsam of Peru, enough to make them into a mass, each dram whereof is to be made into twelve pills, of which three are to be taken every night, drinking after them three or four spoonfuls of compound briony water, during the continuance of this process.

Complete methods of curing most diseases.

7. If these pills should open the body, use the following.

Take of castor, a dram ; volatile salt of amber, half a dram ; extract of rue, enough to make them into twenty four pills, three of which are to be taken every night, with three or four spoonfuls of the hysteric julap above directed.

Sixteen or eighteen drops of spirit of hartshorn, given often in any proper vehicle, do great service.

8. If the disease yields not to this process, let the following pills be used.

Take of the troches of myrrh, reduced to powder, a scruple ; balsam of sulphur with oil of turpentine, four drops ; dissolv'd gum ammoniac, enough to make them into four pills, to be taken morning and night, drinking after them four or five spoonfuls of the hysteric julap, with twelve drops of spirit of hartshorn therein.

The antiscorbutic electuary, and the distill'd water describ'd above, in treating the rheumatism *, are beneficial in these disorders ; and so is the strengthening electuary, with the addition of an ounce of the conserve of garden scurvy-grass, and six drams of the compound powder of wake-robin, drinking some of the above-mentioned water after it.†

9. But if this procedure fails, recourse must be had to the steel-waters, and these proving ineffectual, let the sulphurous kind be tried, such as those of *Bath*.

10. These rules are to be observed in drinking the steel-waters. (1.) If any bad symptom happens which may be ascrib'd to these, let them be left off till it vanishes. (2.) They must be continued six weeks at least, or rather two months. (3.) A little candied ginger, or some carraway comfits, should be taken between whiles to warm the stomach. (4.) Three of the hysteric pills, with four or five spoonfuls of the hysteric julap may also be taken every evening during the first ten nights.

11. As

* *Vid. pag. 252.*

† *Vid. pag. 436.*

11. As to the *Bath* waters, let them be drank two days running, and used by the way of bath the third; continuing this method six weeks, or two months.

12. If the steel overheats the body during the course, let two quarts of the purging mineral waters be drank every fourth morning whilst it is continued; because these waters have the property of opening the body, without occasioning any disturbance, as the shop purgatives ordinarily do.

13. If the steel ruffles the constitution considerably, give a dose of laudanum, in a few spoonfuls of some hyssop water, every night for some time.

14. When the strength appears much impaired, from the long continuance of the disease, bleeding, and purging are to be omitted, and immediate recourse had to steel.

15. But if the symptoms be moderate, it will be sufficient to bleed first, and afterwards purge three or four times, and then administer the hyssop pills morning and night for ten days.

16. In case of intolerable pain, violent vomiting and purging, laudanum must be exhibited, and afterwards the spirits strengthened. But if the strength will bear it, bleeding and purging must be previously used, especially in women of a robust make, and those of a sanguine constitution. In the weak, who have lately had a fit, it is enough to cleanse the stomach with a gallon of posset-drink, exhibiting immediately after the operation a large dose of *Venice* treacle, or orvietan, washing it down with a few drops of laudanum in a few spoonfuls of any spirituous liquor. But if the patient has vomited lately, and vomiting cannot be further encouraged with safety, such a quantity of laudanum must immediately be given, as may be sufficient to conquer this symptom, repeating it after every vomiting, in a solid form especially, or in a very small proportion of some liquid: for instance, a few drops may be given in a spoonful of strong cinnamon water, the patient in the mean time indulging rest, and keeping her head still. After the symptom is conquer'd, let the laudanum be continued morning and night for a few days.

17. In the use of laudanum two things must be carefully observed. (1.) When once we begin with it
after

after any evacuation, it must be given in a sufficiently large dose, and repeated often enough to conquer the symptom, only intermitting such a space of time between every dose, as may be sufficient to inform us what effect the last hath had before we give another. (2.) When the cure of a disease is attempted by laudanum, we must forbear evacuations, and not venture upon even the gentlest glyster.

18. The frequent and long continued use of *Venice treacle* is very serviceable in this and many other diseases proceeding from a want of heat and concoction.

19. A few spoonfuls of an infusion made with the roots of gentian and angelica, the leaves of wormwood, and centory, orange-peel and other strengthening ingredients, in canary, taken thrice a-day, does great service, provided the patient be not of a thin and bilious constitution.

20. The bark is an excellent remedy, especially in hysteric spasms, a scruple of it being taken morning and night for some weeks.

21. In thin and bilious constitutions a milk diet is proper, especially in the hysteric colic, provided the inconveniencies wherewith it is attended in the beginning can be overcome, which are its coagulating in the stomach, and affording too little nourishment to keep up the strength.

22. But nothing does so effectually strengthen the blood, and raise the spirits, as riding much on horseback almost every day for a considerable time; and riding in a coach is no contemptible remedy.

*Of the depuratory or cleansing fever for the years,
1661, 62, 63, 64.*

1. **I**F the patient be young, take away some blood from the arm, and the same day, a few hours afterwards, or the following day, two hours after a light dinner, give a vomit of the infusion of *crocus metallorum*, having three quarts or a gallon of posset-drink in readiness to take a draught off immediately after every motion upwards and downwards: and the operation being over, give the following, or a like opiate.

Take

Take of the distill'd water of black cherries, an ounce and half; plague water, half an ounce; liquid laudanum, sixteen drops; syrup of clove-july-flowers, two drams; mix them for a draught.

It is not safe to give emetics made with the infusion of *crocus metallorum*, even in the smallest dose, to children under fourteen.

2. From this time to the tenth or eleventh day, let the following glyster be injected every morning.

Take of the common decoction for glysters, or milk, a pint; coarse sugar and syrup of violets, each two ounces; mix them for a glyster.

3. And after this time suffer the patient to be constive, that the febrile matter may the sooner come to concoction; for which purpose mild cordials administered during the last days, are very beneficial.

Take of Gascoign's powder, fourteen grains; the electuary of the egg, half a scruple; syrup of clove-july-flowers, enough to make them into a bolus, to be taken every eighth hour, with five or six spoonfuls of the following julap.

Take of milk-water, and black cherry water, each three ounces; plague-water, and syrup of clove-july-flowers, each an ounce; mix all together for a julap.

4. If this method be carefully followed, it will generally be found proper, from the separation of the urine, and the manifest abatement of all the symptoms, to give the common purging draught towards the fifteenth day.

5. It sometimes happens, especially in the aged, after the fever is gone off, and purging hath been used, that the patient notwithstanding is very weak, and sometimes by coughing, and other times by spitting, expectorates a copious tough phlegm; in which case, let him drink a glass of old malmsey, with a toast.

6. If an iliac passion succeeds this fever, order a scruple of salt of wormwood to be taken morning and night in a spoonful of lemon-juice; and in the intervals let some spoonfuls of mint-water by itself be taken
twice

twice an hour. At the same time let a live puppy be apply'd to the belly, and two or three days after the vomiting and purging are gone off, give a scruple of the greater *pil. cochia*, dissolved in mint-water : observing to keep the live puppy applied to the belly till this time.

7. To prevent a relapse let the use of the mint-water be persisted in a considerable time, and the belly preserved from cold by wearing a double flannel.

Of the pestilential fevers of the Years 1665--66.

1. **A**FTER the sick person hath been blooded in bed, let him be well cover'd with clothes, and a piece of flannel applied to his forehead, and then, if there be no vomiting, give the following, or a like sudorific.

Take of Venice treacle, half a dram ; the electuary of the egg, a scruple ; Gascoign's powder, twelve grains ; cochineal, eight grains ; saffron, four grains ; the juice of kermes, enough to make them into a bolus, to be taken every sixth hour, with six spoonfuls of the following julap after it.

Take of the distill'd water of holy thistle, and compound scordium water, each four ounces ; treacle water, two ounces ; syrup of clove-july-flowers, an ounce ; mix them together for a julap.

2. If there be a vomiting, do not give the sudorific till by the weight of the clothes only the sweat begins to flow, the face being covered with part of the sheet in order to promote it.

3. When the sweat is begun, it is to be continued for the space of twenty four hours, by giving draughts of sage posset-drink, or mace ale, between whiles ; and the patient during the sweat may be refresh'd with restorative broths.

4. After the appearance of a swelling I have not ventur'd upon bleeding. The patient should keep his bed for twenty four hours after the sweat is gone off, and be cautious of catching cold ; his linnen should be suffered to dry on his body, and his liquids taken warm ; and he should also continue the use of sage posset-

posset-drink: but next morning give my common purging potion.

5. The years 1667 and 1668, gave rise to a variolous fever, and the small-pox; the years 1669, 70, 71, and 72, to the dysenteric fever; and the years 1673, 74, and 75, to the comatous fever: but I do not treat of the cure of these several fevers, because I conceive they may be conquer'd by the method specified, in treating of the fever of 1685, &c. *

Of intermittent fevers.

1. **T**HE fit begins with a chillness and shaking, which are soon follow'd by heat and then by sweat, which terminates the fever: tho' in the beginning of this disease, especially in autumn, a remission rather than an intermission is perceived. The cold and hot fit both are generally accompanied with a vomiting, great sickness, thirst, and a dry tongue. A swelling of the *abdomen* in children, and of the legs in grown persons, shews that the fever is going off; but a pain of the tonsils, a hoarseness, hollow eyes, and a *hippocratic* face forebush death.

Take of the Peruvian bark in fine powder, an ounce; syrup of clove-july-flowers, or of red roses, enough to make it into an electuary, to be divided into twelve doses, one of which is to be taken every fourth hour, drinking after it a glass of any sort of wine; beginning immediately after the fit.

2. If this electuary runs off downwards, give ten drops of liquid laudanum in a glass of wine after each, or every other dose, as there is occasion. In order to prevent a return of the fever, especially in a quartan, this process is to be repeated every week for three weeks more.

3. If pills are better liked,

Take of the Peruvian bark finely powder'd, an ounce; syrup of clove-july-flowers, enough to make it into pills of a middling size, six whereof are to be taken every fourth hour.

* See pag. 495.

If a tincture,

Take of the Peruvian bark grossly powder'd, two ounces ; Rhenish wine, two pints ; digest them together without heat, and strain off the tincture, three ounces of which are to be taken every third or fourth hour.

4. If the fever be accompanied with an almost continual vomiting, so that the patient cannot get down the bark, give a scruple of salt of wormwood, in a spoonful of fresh lemon-juice, six or eight times in the space of two hours ; and afterwards sixteen drops of liquid laudanum in a spoonful of cinnamon water without spirit : and as soon as the vomiting stops let the patient begin with the bark.

5. In vernal intermittents, an emetic sometimes seasonably administer'd, namely, so long before the fit, that the operation may be over before it comes, works a cure : and sometimes a glyster injected daily on three or four of the intermediate days does the same.

6. The cure of this kind of fevers may likewise be attempted in the following manner.

Take of Virginian snake-weed, in fine powder, fifteen grains ; white wine, three ounces ; mix them together for a draught.

Let the patient take it two hours before the fit comes, and being well covered with clothes, sweat three or four hours afterwards ; and let it be repeated twice in the same manner.

7. In case of great weakness from the redoubling of the fits.

Take of the conserves of borage and bugloss, each an ounce ; conserve of rosemary, half an ounce ; candied citron peel, candied nutmeg, and Venice treacle, each three drams ; the confection of alchermes, two drams ; mix them together, and make an electuary, of which the quantity of a hazle nut is to be taken morning and night, drinking after each dose a few spoonfuls of any simple plague water, sweeten'd with sugar, and forbidden the use of glysters during this process.

8. If a dropsy happens in the declension of the disease, the fever not being yet remov'd, the cure must not be

attempted by purgatives, but by infusions in wine with horse-raddish root, the tops of wormwood, the lesser centory, juniper berries, and broom ashes, &c. but after the fever is gone off, by purgatives and aperients.

9. In children seiz'd with this disease proceed thus:

Take of the distill'd water of black cherries, and Rhenish wine, each two ounces; the Peruvian bark finely powder'd, three drams; syrup of clove-july-flowers, an ounce; mix them for a julap, a spoonful or two of which, according to the age of the child, is to be taken every fourth hour, till the fits are gone off, dropping into every other dose, in case of a looseness, one or two drops of liquid laudanum.

Of the stationary fever from the year 1685 to 1690.

1. **T**HIS fever is attended with the following symptoms. (1.) Heat and cold succeeding each other, (2.) a pain of the head and limbs, (3.) the pulse in the mean time differing little from a healthy state, (4.) a cough sometimes, (5.) a pain in the neck and jaws, (6.) an increase of the fever towards night, (7.) restlessness, (8.) thirst, (9.) the tongue either moist and quite cover'd with a white rough skin, or dry and brown in the middle, and white round the edges, (10.) lying always in bed occasions a *coma* and a delirium, (11.) and the effect of a hot regimen are *petechiæ*, purple spots, miliary eruptions redder than the measles, an irregular pulse, startings of the tendons, and at length death. (12.) Symptomatic sweats happen in the beginning, which being promoted by art, appear viscid in the head, and derive the morbid matter to the head, or the limbs.

2. Take away ten ounces of blood from the arm, and repeat the bleeding, if a difficulty of breathing, an acute pain of the head in coughing, and other signs of a bastard peripneumony appear. And in this case bleeding and purging must be repeated till the patient recovers.

3. At night apply a blyster, and next morning prescribe a laxative draught, which must be repeated every other day, to a third time, and a composing draught given in the evening after the operation.

Take

Complete methods of curing most diseases.

Take of the distill'd water of cowslips, three ounces ; syrup of white poppies, an ounce ; fresh lemon-juice, two spoonfuls ; mix them for a draught.

4. The *aphthæ* and hiccup which succeed spontaneously after the cure of the fever, ordinarily go off in the same manner ; but if they continue long, are easily removed with an ounce of the *Peruvian bark*, made into an electuary, or pills, with a sufficient quantity of the syrup of red poppies, a dram whereof is to be taken twice or thrice a day, drinking after each dose a draught of whey. This medicine will certainly answer the end, if the virtues of it be not destroy'd by lying constantly in bed.

5. On the intermediate days of purging, direct the following.

Take of the conserves of wood-forrel and hips, each an ounce ; the conserve of barberries, half an ounce ; cream of tartar, a dram ; syrup of lemons enough to make them into an electuary, of which the quantity of a nutmeg is to be taken thrice a day, with six spoonfuls of the following julap.

Take of the distill'd waters of purslain, lettice and cowslips, each three ounces ; lemon-juice, an ounce and half ; syrup of violets, an ounce ; mix them together for a julap.

Or,

Take of spring water, a pint ; rose water, lemon-juice, and fine sugar, each four ounces ; boil them together over a slow fire, till the scum rises, which must be carefully taken off. Three ounces of it may be taken at pleasure.

The following gargarism is likewise proper.

Take of verjuice, half a pint ; syrup of rasp-berries, an ounce, mix them for a gargarism.

6. If the stomach be so much disorder'd by the fever, that a draught cannot be kept down, give two scruples of the greater *pil. cochix*, and in this case an opiate is also to be exhibited ; for instance, a grain and half of kudatum, with the same quantity of mastich, or
eighteen

eighteen drops of liquid laudanum, in an ounce of small cinnamon water.

7. The white decoction made with an ounce of burnt hartshorn, boil'd in three pints of spring water, and sweetened with fine sugar, may serve for common drink ; as may small-beer likewise at pleasure.

8. When the patient has been purged twice, he may be allow'd to feed on chicken, and after the last purgation, provided the fever be a little abated, four spoonfuls of canary may be given him in the morning, and in the afternoon, and at night also for some days.

9. Nothing is more serviceable in a delirium or *coma* than shaving the head, without applying a plaister, but only wearing a cap.

10. If, as it sometimes happens in hysteric women, the fever continue after this repeated bleeding and purging, then, provided there be no signs of a peripneumony and inflammation about the vital parts, let an opiate be order'd every night, and hysteric medicines twice or thrice a day.

How children are to be treated in the stationary fever.

1. **A**PPLY two leeches behind each ear, and a blister to the neck, and purge them with an infusion of rhubarb in beer.

2. If the fever seem to intermit after purging, exhibit the julap with the *Peruvian* bark above set down, in treating of intermittent fevers.

Of the scarlet fever.

1. **T**HE scarlet fever chiefly attacks children towards the close of summer : they are chill and shake in the beginning, but not very sick, the skin is cover'd with small red spots, which are more numerous, larger, and redder than the measles, and continue two or three days, after which the scarf-skin falling off the true skin appears mark'd with branny scales

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Take of burnt hartshorn finely powder'd, and Gascoign's powder each half a dram ; cochineal, two grains ; fine sugar a dram ; make them into a fine powder, to be divided into twelve parts, one of which is to be taken every six hours, drinking after it two or three spoonfuls of the following julap.

Take of black cherry and milk water, each three ounces ; syrup of citron-juice, an ounce ; mix them for a julap.

2. Apply a blister, likewise, to the neck, and give an opiate of the syrup of white poppies every night ; and the symptoms being gone off, exhibit a purge.

Of the pleurisy.

1. **T**HIS disease prevails between the spring and summer : it begins (1.) with a chilness and shaking, which are soon accompanied with (2.) heat, thirst, restlessness, and the other symptoms of a fever ; (3.) in a few hours the patient feels a violent pain in one side, near the ribs, which sometimes extends to the *scapula*, sometimes to the *spina dorsi*, and sometimes to the fore-part of the breast ; (4.) he has likewise a violent cough ; (5.) the matter expectorated at the beginning of the disease, is small in quantity, thin, and frequently streak'd with blood ; but in the course thereof it is more copious, and concocted, and also mixed with blood ; (6.) the fever keeps pace with the cough, the spitting of blood, and the pain, and abates gradually, according as expectoration becomes less obstructed ; (7.) the body is sometimes costive, and sometimes too open ; (8.) the blood, when cold, looks like melted tallow.

2. Take away ten ounces of blood from the arm of the affected side.

Take of the distill'd water of red poppies, four ounces ; salt prunella, a dram ; syrup of violets, an ounce ; mix them for a draught to be taken immediately after the first bleeding.

Take five sweet almonds blanch'd ; melon and pumpkin seeds, of each half an ounce ; the seeds of white poppies, three

three drams ; barley water, a pint and half ; rose water, two drams ; sugar-candy, enough to sweeten it ; make the whole into an emulsion, four ounces of which should be taken every fourth hour.

Take of the pectoral decoction, a quart ; syrup of violets, and maiden-hair, each an ounce and half ; mix them for an apozem, of which half a pint is to be taken three times aday.

Take of oil of sweet almonds, two ounces ; syrup of violets and maiden-hair, each an ounce ; sugar-candy, enough to make them into a linctus.

Oil of sweet almonds, by itself, or fresh drawn linseed oil may be also given.

Take of the oils of sweet almonds and lillies and marsh-mallow ointment, each an ounce ; mix them together into a liniment, with which anoint the affected side morning and night, applying a cabbage leaf thereto.

3. The bleeding is to be repeated in the same quantity, three days running, if the pain and difficulty of breathing require it.

Of the bastard peripneumony.

1. **T**HIS distemper arises towards the beginning, and frequently at the close of winter. At the beginning (1.) the patient grows hot and cold by turns ; (2.) is giddy upon the least motion ; (3.) his eyes and cheeks are red and inflamed ; (4.) he has a cough, and in coughing feels a violent pain of the head ; (5.) he vomits up all liquids ; (6.) the urine is turbid, and very high colour'd ; (7.) the blood taken away resembles pleuritic blood ; (8.) he breathes quick, and with difficulty, and has a pain in his breast. This disease is, distinguish'd from a dry asthma, as being accompanied with evident signs of a fever, which never appear in that distemper, tho' they are much more gentle and latent than in the true peripneumony.

2. Let ten ounces of blood be taken away from the right arm, and the next day give this purging draught.

N n 2

Take

Complete methods of curing most diseases.

Take of the pulp of cassia, fresh extracted, an ounce ; liquorice root, two drams ; four fat figs ; the leaves of senna, two drams and a half ; troches of agaric, a dram ; boil them together in a sufficient quantity of spring-water, to four ounces ; in the strain'd liquor dissolve an ounce of manna, and half an ounce of the solutive syrup of roses ; mix the whole for a draught.

3. But if the patient cannot take a draught, give him two scruples of the greater *pil. cochiaë*, at four in the morning.

4. Let the bleeding be repeated the next day in the same quantity, and the day after give another purgative, which is to be repeated every other day, or seldomer, according to the strength of the patient. And further, if the symptoms do not go off, bleeding must be again repeated once, twice, or oftner, interposing some days between each bleeding, as there is occasion ; but a second bleeding will mostly suffice. During this course the patient should use the pectoral decoction, the linctus, and oil of sweet almonds, prescrib'd above, in treating of the pleurisy, especially on the intermediate days of purgation.

Of the rheumatism

1. **T**HIS disease begins (1.) with a chillness and shaking, with the other signs of a fever ; (2.) in a day or two, and sometimes sooner, a violent pain seizes sometimes one limb, and sometimes another but especially the wrists, shoulders, and knees, leaving a redness and swelling in the part last affected ; (3.) the fever goes off by degrees, whilst the pain continues and sometimes increases. A rheumatic *lumbago* is accompanied with a severe fixt pain in the region of the loins, resembling a fit of the stone in every thing but a tendency to vomit ; the patient cannot lie down in bed, but either gets up, or sits upright therein, and is perpetually moving his body backwards and forwards : the blood is fizy, as in a pleurisy.

2. Let ten ounces of blood be taken away from the arm of the affected side.

Take

Take of the distill'd waters of water lilly, purslain, and lettice, each four ounces ; syrup of lemons, an ounce and half ; syrup of violets, an ounce ; mix them for a julap, some of which may be drank at pleasure.

3. Emulsions of the four greater cold seeds should be prescribed, and a cataplasim made of the crumb of white bread and milk tinged with saffron, applied to the part affected.

4. The next day take away the same quantity of blood, and bleed again in a day or two, and repeat the operation a fourth time, or oftner, if there be occasion, observing after the second time to repeat the bleeding at greater intervals.

5. On the intermediate days of bleeding, inject a glyster of milk and sugar between whites, or the following.

Take of the common decoction for glysters, a pint ; syrup of violets and coarse sugar, each two ounces ; mix them for a glyster.

6. If the patient be too weak to bear repeated bleeding, the cure after the second or third bleeding, must be attempted in the following manner.

7. Exhibit my common purging potion every other day, till the disease goes off, and in the evening, after the operation, an opiate of syrup of white poppies.

8. If the distemper does not yield to these remedies, and the patient is too weak to bear any evacuations, give him the antiscorbutic electuary, and distilled water described in treating of the scurvy which are also proper in a scorbutic rheumatism.*

9. In young persons, and such as live temperately, and drink wine with moderation, the rheumatism may be as successfully cured by a very cooling and moderately nourishing diet, as by repeated bleeding, which they cannot so well bear.

10. For instance ; let the patient live upon whey only for four days running, and afterwards, besides the whey, he may eat a piece of white bread once a day, instead of a dinner, till he recovers ; only towards the declension of the disease a piece of bread may likewise be allowed him at supper. When the symp-

toms are gone off, his diet may be boil'd chicken, and other food of easy digestion; but every third day he must live only upon whey, till he is perfectly recovered.

Of the erysipelalous fever.

1. **I**N this distemper (1.) all the parts of the body, but especially the face, swell and are painful and red: (2.) small pimples appear, which sometimes rise up into blisters, and spread over the forehead and head; (3.) the eyes are buried under the swelling; (4.) a chilness, shivering, and other signs of a fever accompany these symptoms. In the other kind of this disorder, which is occasion'd by drinking, there is (1.) a slight fever; (2.) attended with pimples, not unlike those caused by the stinging of nettles, which sometimes rise up into blisters, and soon after vanish, and lie conceal'd under the skin, where they produce a very troublesome itching, and, upon scratching, come out again. There is also another kind of eruption which generally appears in the breast, being a broad spot with yellow scales, which scarce rises higher than the skin, and whilst it keeps out the patient is not at all indisposed, but when it strikes in, a slight sickness succeeds, and the urine is turbid and yellow: it yields to the same remedies as the stubborn itch, only wine and flesh of easy digestion may be used.

2. Take away nine or ten ounces of blood from the arm, and next day exhibit my common purging potion.

Take of the roots of marshmallows and lillies, each an ounce; the leaves of mallows, elder, and mullein, the flowers of camomile and melilot, and the tops of St John's wort, and the lesser centory, each one handful; linseed and fenugreek seed, each half an ounce; boil them together in a sufficient quantity of water to leave three pints, and to every pint of the strain'd liquor, when 'tis used, add two ounces of spirit of wine.

Let the part affected be fomented twice a day with flannels dipp'd in this fomentation, first made hot, and wrung

wrung dry ; and after fomenting bathe it with the following mixture.

Take of spirit of wine, half a pint ; Venice-treacle, two ounces ; long pepper and cloves, reduc'd to powder, each two drams ; mix them together : cover the part affected with brown paper moistened with this mixture.

3. If the first bleeding does not cure the disorder, have recourse to the operation again, and this failing, repeat it twice more, interposing a day between each bleeding.

4. On the intermediate days of bleeding, order a glyster of milk and syrup of violets, and a cooling emulsion and julap.

Of the stubborn itch, and other inveterate eruptions of the skin, which yield not to bleeding and purging.

1. **T**AKE of Venice-treacle half a dram ; electuary of the egg, a scruple ; Virginian snake-root, in fine powder, fifteen grains ; oriental bezoar, five grains ; syrup of candied citron, enough to make them into a balus, to be taken every night, at bed-time, for the space of one and twenty days, drinking after it six spoonfuls of the following julap.

Take of the distill'd water of holy thistle, six ounces ; plague and treacle waters, each two ounces ; syrup of clove-july-flowers, an ounce ; mix them for a julap.

2. The patient should drink half a pint of warm posset-drink every morning, and sweat an hour after it.

3. This course being over, if the eruptions still continue, let the parts affected be anointed with the following liniment.

Take of the ointment of sharp-pointed dock, two ounces ; pomatum, an ounce ; flower of sulphur, three drams ; oil of rhodium, half a scruple ; mix them together for a liniment.

4. But these medicines must not be used before bleeding and purging have duly preceded

Of the quinsy.

1. **T**HE quinsy commonly comes between spring and summer; the fever accompanying it, is soon succeeded by a pain and inflammation of the *fauces, uvula, tonsillæ, and larynx*; these parts being so much swell'd as to hinder deglutition and respiration.

2. Bleed plentifully in the arm, and let the inflamed parts be besmear'd with honey of roses, well acidulated with spirit of vitriol, or spirit of sulphur; and soon after let the following gargarism be used, not in the common way, but held quietly in the mouth, till it grows warm, and then spit out; and repeat it in this manner between whiles.

Take of the distill'd waters of plantain, red roses and frog-spawn, of each four ounces; three whites of eggs, beat to a liquor; fine sugar, three drams; mix them together for a gargarism.

And let the cooling emulsion, prescrib'd in the cure of the pleurisy be daily used.

3. Next Morning, unless the fever and difficulty of swallowing be abated, bleeding must be repeated, and purging deferr'd till the subsequent day, otherwise a gentle purge may be given.

4. If the disorder still continues, which very rarely happens, let bleeding and purging be further repeated, and a large sharp blistering plaister applied between the shoulders, after the first bleeding.

5. On the intermediate days of purging, inject a cooling and emollient glyster in the morning: the patient must use a sparing diet, and sit up a few hours every day.

6. In all these fevers, which I call *intercurrent*, and in those likewise which I term *stationary*, it must be carefully observ'd, that the patient should sit up a great part of the day, and live upon barley broth, water-gruel, and the like kind of diet, and use small-beer, and milk and water for his common drink.

Of the measles.

1. **C**Hildren are chiefly subject to this disease; which hath the following symptoms. (1.) The first day they are seized with a chillness and shivering, and heat and cold succeeding by turns; (2.) the

(2.) the second day a perfect fever comes on, accompanied with (3.) great sickness, (4.) thirst, (5.) loss of appetite, (6.) a white, but not dry tongue, (7.) a slight cough, (8.) heaviness of the head and eyes, with a continual drowsiness, and (9.) a constant distillation from the nose and eyes, and an effusion of tears which is the most certain sign of the measles. (10.) These symptoms are succeeded by a sneezing, a swelling of the eye-lids, immediately preceding the eruption, a vomiting and a looseness, attended with green stools, especially in children whilst they are breeding teeth. The symptoms increase till the fourth day, at which time, and sometimes on the fifth day, little red spots, like flea bites, appear in the forehead and face, which growing more numerous and large, run together, and mark the face with large red spots, which are composed of small red pimples, rising a little higher than the skin, and may be felt by pressing them lightly with the finger, but can scarce be seen. From the face, where only they first shew themselves, these spots extend to the breast and belly, and then to the thighs and legs; but in these parts they are large and red, and do not rise above the surface of the skin.

2. The symptoms do not abate upon the eruption in this disease as in the small-pox, the vomiting indeed does not continue afterwards, but the fever, cough, and difficulty of breathing increase, and the distillation from the eyes, the drowsiness and loss of appetite remain. On the sixth day, or about that time, the forehead and face grow rough, the eruptions begin to dry and the skin separates; but in the other parts of the body the spots appear very large. About the eighth day they vanish in the face, and scarce appear in the rest of the body. On the ninth day they disappear entirely, and the face, limbs, and sometimes the whole body seem cover'd with branny scales; but the cough, fever, and difficulty of breathing, grow more violent. A hot regimen in grown persons makes the eruptions turn livid at first, and then black.

Take of the pectoral decoction, a pint and half; syrup of violets and maiden-hair, each an ounce and half; mix them together for an apozem, and let three or four ounces of it be taken three or four times a day.

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Take of oil of sweet almonds, two ounces ; syrup of violets and maiden-hair, each an ounce ; white sugar-candy, enough to make them into a linctus, to be taken often in a small quantity, especially when the cough is troublesome.

Take of black cherry water, three ounces ; syrup of white poppies, an ounce ; mix them together, for a draught, to be taken every night the distemper throughout ; lessening or increasing the dose, according to the age of the patient.

3. The patient should lie in bed for the first two days after the eruption.

4. If a fever, a difficulty of breathing, and other symptoms, resembling a peripneumony, succeed after the measles is gone off, bleed plentifully in the arm, and repeat the operation a second or third time, as there is occasion, interposing a proper interval between each : and continue the use of the pectoral decoction and linctus above prescribed, together with the oil of sweet almonds by itself. About the twelfth day from the beginning of the distemper give a gentle purge.

5. The looseness succeeding the measles is cur'd by bleeding,

Of the small-pox

1. **T**HE small-pox is of two kinds ; either distinct, or confluent. The distinct kind begins with (1.) chills and shivering, (2.) great heat, (3.) a violent pain of the head and back, (4.) vomiting, (5.) a considerable tendency to sweat in grown persons, whence it may be conjectured that the small-pox will not prove of the confluent kind. (6.) a pain under the *scrobiculum cordis* upon pressing it with the hand, (7.) drowsiness and *stupor* sometimes, (8.) epileptic convulsions, especially in children, which happening after dentition, one may assert that the small-pox is just approaching ; so that for instance, supposing a child be seiz'd with a convulsive fit over night, a kindly small-pox will appear next morning, and very rarely the confluent sort.

2. On

2. On the fourth day, inclusive from the beginning of the distemper, sometimes later, but seldom sooner, the eruptions come out, at which time the symptoms abate, or go off entirely. At first reddish pustules, as large as the head of a small pin, appear scatter'd up and down in the face, neck, breast, and the whole body, and at the same time a pain seizes the *fauces*, and increases proportionably as the eruptions fill.

3. About the eighth day, the spaces between the pustules that appear'd white before, begin to grow red, swell, and are painful ; the eye-lids are distended so as to close the eyes, and resemble an inflated bladder, Next after the face, hands, and fingers swell, and the eruptions on the face that till this day were smooth and red, now grow rough and whitish (which is the first sign of suppuration) and discharge a yellow matter in colour, not unlike a honey-comb. The inflammation of the face and hands, being in the mean time come to its height, renders the spaces between the eruption of a florid red colour, resembling that of damask roses : and the milder the small-pox is, the nearer do the eruptions and their intermediate spaces approach this colour. The pustules on the face grow every day rougher and yellower, as they suppurate, whilst those of the hands and other parts appear smoother and whiter.

4. On the eleventh day, the swelling and inflammation of the face vanish, and the eruptions being come to their due maturity and size, equalling that of a large pea, dry and scale off. On the fourteenth or fifteenth day they disappear entirely, but those of the hands being more stubborn, and yet white and fresh, continue a day or two longer, after which they burst ; and those of the face and body scale off, and in the face are succeeded by pits or pock-marks.

5. The patient is either quite costive, or hath few stools throughout the whole course of the disease. Most of those whom this distemper kills, die on the eighth day in the distinct kind, and on the eleventh in the confluent : for when sweat is promoted in the distinct sort by cordials and a hot regimen, the face, which on the eighth day ought to swell, and be inflam'd in the spaces between the eruptions, on the contrary appears whitish and sunk, whilst the pustules
not-

notwithstanding continue red and elevated, even after the death of the patient. The sweat which flowed freely to this day ceases suddenly, and the patient in the mean time is seiz'd with a delirium, restlessness, sickness, and a frequency of making urine in small quantities, and in a few hours expires.

6. The confluent small-pox is accompanied with the same symptoms, but they are more violent: the fever, for example, restlessness, sickness, and vomiting, &c. rage more severely, but there is less tendency to sweat than in the distinct kind. Sometimes a looseness precedes, and lasts a day or two after the eruption, which it scarce ever does in the distinct kind. The eruption, in this sort of small-pox happens on the third day, or earlier, but seldom later, and the sooner the pustules come out, the more they run together. Sometimes, however, the eruption is retarded to the fourth or fifth day by some violent symptom; as for instance, (1.) a sharp pain in the loins, resembling a fit of the stone, (2.) in the side, like a pleurisy, (3.) in the limbs, like a rheumatism, or, (4.) in the stomach, accompanied with great sickness and vomiting. The confluent sort differs from the distinct in this, that the symptoms do not abate immediately after the eruption, but the fever and its concomitants afflict the patient for several days afterwards. Sometimes the pustules come out like an *erysipelas*, and sometimes like the measles; but they may readily be known from both by the time of the eruption. In the progress of the disease, the pustules do not come to any considerable bigness, but run together in the face, and cover it like a red bladder and make it swell sooner than in the distinct sort; at last they appear like a white pellicle, closely adhering to the face, and rising a little above the skin.

7. After the eighth day this pellicle grows every day rougher, and inclines to a brown colour; the skin is tenderer, and in the worst species of the confluent small-pox falls off in large scales, but not till after the twentieth day. 'Tis worth observing, that the nearer the pustules, as they suppurate, incline to a dark brown colour, they are so much the worse, and the longer in falling off; but the
yellower

yellower they are, the less they run together, and the sooner they vanish.

8. When the pellicle first falls off, the face appears smooth, but it is soon succeeded by branny scales, of a very corrosive nature, which leave large pits and frequently seams behind them. Sometimes the skin of the back and shoulders scales off. The dangerousness of the disease is to be estimated by the number of the eruptions on the face only. Those of the hands and feet are larger than those of the other parts, and the nearer they approach the body the less they are.

9. In grown persons a salivation, and in children a looseness (tho' not so certainly) accompanies the confluent kind. The salivation sometimes begins with the eruption, and sometimes not till two or three days afterwards. At first the matter is thin, but on the eleventh day it grows more viscous, and is rais'd with great difficulty. The patient is thirsty, and is seiz'd with a hoarseness, great *stupor* and drowsiness, coughs between whiles as he drinks, and the liquor flies out at the nostrils. At this time the salivation generally stops, which, if it were not supplied by the swelling of the face, and the swelling of the hands, now manifestly beginning, and lasting longer than the former, would immediately destroy the patient. For tho' the swelling of the face, according to the nature of the disease, ought to abate a little on this day, yet it should not sink entirely till a day or two afterwards. The looseness does not attack children so soon as the salivation does grown persons.

10. In both the kinds of the small-pox, the fever rages from the beginning of the illness to the time of the eruption, after which it abates till the suppuration begins, which being finish'd it goes off. Wrong management occasions abundance of irregular symptoms, as a sinking of the pustules, a *delirium*, a *coma*, purple spots between the eruptions, with small black spots on the top of them, deprest in the middle; bloody urine, and spitting of blood in the beginning of the distemper, and a suppression of urine.

11. The separation is finish'd with a febrile ebullition, in the first three or four days, and the expulsion

pulsion is perform'd during the rest of the time by means of small abscesses in the flesh.

12. In the mildest sort of the confluent small-pox, the eleventh day inclusive, from the beginning of the illness is the most dangerous, the fourteenth in the middle sort, and the seventeenth day in the worst kind : but sometimes the patient does not die before the twentieth day, which however very rarely happens. Moreover a very troublesome fit of restlessness comes on every day towards evening, from the eleventh to the seventeenth day.

13. Take away nine or ten ounces of blood upon any of the first three days, and afterwards give a vomit of an ounce, or an ounce and half of the infusion of *crocus metallorum*.

14. During the first stage of the distemper, that is till the eruption be over, let the blood be diluted by drinking small-beer often, acidulated with spirit of vitriol.

15. As soon as all the pustules are come out, which ordinarily happens on the sixth day from the beginning of the illness, give an ounce of the syrup of white poppies every evening till the tenth day, and that night, if the small-pox be of the confluent kind, increase the dose to an ounce and half, and from this time forward give an ounce every morning, and an ounce and half at night till the patient recovers.

16. If the syrup of poppies does not agree with the patient, liquid laudanum may be exhibited in its stead ; for instance, eighteen drops of it for an ounce of the syrup, and twenty-five drops for an ounce and half ; observing in the mean time, if the opiate fails to quiet the tumult, (as it frequently does at the declension of the most confluent small-pox) to give it every eighth hour, or oftner, if there be occasion.

17. But in the distinct small-pox the opiate need only be exhibited every night, after the eruption is over, and in a smaller dose likewise.

18. But of whatever kind the small-pox be, and at whatever time of the disease it happens, if a *delirium* comes on, 'tis indispensibly necessary to check the irregular motion of the spirits, and therefore if the first opiate does not answer the end, it must be repeated till the disturbance be quieted, interposing such a space of time between every dose, that we may be assured

assured whether the last hath been effectual for that purpose, before we exhibit another.

19. If a total suppression of urine happens, the patient must be taken out of bed, and walk a few turns about his room.

20. If the heat renders the *saliva* so viscous that it can't be got up, the throat must be frequently fying'd with a gargarism of small-beer, or barley-water with honey of roses ; or the following may be used for this purpose.

Take of elm bark six drams ; liquorice root, half an ounce ; ston'd raisins, twenty ; red roses, two pugils ; boil them together in a sufficient quantity of water to a pint and half ; in the strain'd liquor dissolve simple oxymel and honey of roses, of each two ounces ; mix them for a gargarism.

21. If there be occasion for a blistering plaister, apply a large strong one to the neck, on the evening preceding the great crisis of the disease, and immediately afterwards exhibit the opiate. Garlic may also be applied to the bottom of the feet, from the eighth day to the end of the distemper, and renew'd every day.

22. If a child be seiz'd on a sudden with convulsions after dentition, it may be consider'd, that in all probability they proceed from the effort of nature to expel the small-pox, scarlet-fever, or the measles to the outward parts ; and therefore let a blistering plaister be applied to the neck, and the child immediately put to bed, and a cordial also exhibited, mix'd with a small quantity of some opiate ; for instance, five drops of liquid laudanum, in a spoonful of plague-water, to a child of three years of age.

23. If on the eleventh, or any succeeding day, the second fever, attended with restlessness, and the other symptoms of this kind, rises so high that it cannot be check'd by opiates, tho' repeated with the greatest frequency, and even endangers life ; in this case let a sufficiently large quantity of blood, for instance, twelve ounces, or thereabouts, be immediately taken away, and the operation may be repeated a second or third time on the subsequent days, if the abovemention'd symptoms require it, but not otherwise. A lenient purgative may also be order'd
on

on the thirteenth day, but not sooner, or any of the following days, provided bleeding hath been previously used; for instance, an ounce of lenitive electuary, dissolv'd in four ounces of succory or milk water. But neither bleeding or purging obstruct the use of opiates, which, notwithstanding these operations, ought to be given in a large dose, and repeated according to the exigency of the case; for we are always to have recourse to opiates in this disease.

24. When the pustules are quite dry, the face may be anointed with a liniment, made of equal parts of oil of sweet almonds and pomatum, for two days, but not longer.

25. On the 21st day from the beginning of the distemper, take away some blood from the arm, and the next day give a purge, and repeat it every other day, to a fourth time.

26. As to the regimen, the patient should sit up in the day time till the sixth day, and afterwards keep his bed constantly till the seventeenth, but not have more cloths laid on him than he was accusom'd to when in health.

27. His diet should be water-gruel, barley-broth, roast apples, and small-beer, and after the eleventh day he may drink four or five spoonfuls of canary twice a day if he likes it,

28. If the swelling of the legs yields not to the above-mention'd evacuations, it may be easily remov'd with a fomentation, made of the leaves of mallows, mullein, elder, and laurel, and the flowers of camomile and melilot, boil'd in milk.

29. If a spitting of blood, or bloody-urine happen in the first stage of the disease, let the powder and julap set down in my dissertation on the second fever in the confluent small-pox † be carefully exhibited every sixth hour, till these symptoms entirely disappear: in this case opiates also may be given freely.

Of St Vitus's dance.

1. **T**His disorder is a kind of convulsion, which seizes children of both sexes, from the tenth to the fourteenth year: it manifests itself by a halting,

or

† See pag. 529.

or unsteadiness of one of the legs, which the patient draws after him like an idiot. If the hand of the same side be applied to the breast, or any other part of the body, the child can't keep it a moment in the same posture, but it will be drawn into a different one by a convulsion, notwithstanding all his efforts to the contrary. Before a child who hath this disorder can get a glass or cup to his mouth, he useth abundance of odd gestures; for he does not bring it in a strait line thereto, but his hand being drawn sideways by the spasm, he moves it backwards and forwards, till at length the glass accidentally coming nearer his lips, he throws the liquor hastily into his mouth, and swallows it greedily, as if he meant to divert the spectators.

2. Take away eight ounces of blood from the arm, or a quantity best adapted to the age of the patient.

3. The next day give him one half, or a little more of my common purging potion, according to his age, and at night the following draught.

Take of black cherry water, an ounce; compound piony water, three drams; Venice treacle, a scruple; liquid laudanum, eight drops; mix them together for a draught.

Repeat the purgative thrice, once every other day, and give an opiate at night, after the operation.

4. Afterwards bleed again and purge, as before, and in this manner let bleeding and purging be repeated a third or fourth time; allowing such intervals between the alternate evacuations, as to prevent all dangers therefrom.

5. On the intermediate days of purging, let the following remedies be used.

Take of the conserves of Roman wormwood and orange peel, each an ounce; the conserve of rosemary, half an ounce; old Venice treacle, and candied nutmegs, each three drams; candied ginger, a dram; syrup of citron-juice, enough to make them into an electuary, of which let the quantity of a nutmeg be taken every morning, and at five in the afternoon, drinking after it five spoonfuls of the following wine.

○ ○

Take

Take of the roots of piony, elecampane, masterwort and angelica, each an ounce ; the leaves of rue, sage, betony, germander, white horehound, and the tops of the lesser centory, each a handful ; juniper berries, six drams ; these ingredients being sliced, cut, and bruised as they require, let them infuse, without heat in six pints of canary ; strain it off only as it is us'd.

Take of rue water, four ounces ; compound piony and briony water, each an ounce ; syrup of piony six drams ; mix them together for a julap, four spoonfuls of which must be taken every night at bedtime, dropping into it eight drops of spirit of hartshorn.

6. Apply a plaister spread on leather, of the plaister of gum caranna to the bottom of the feet.

7. To prevent a relapse, open a vein and purge for some days, about the same season of the following year, wherein the disease first appear'd.

8. It seems probable to me that this method might suit the falling sickness in grown persons, which, however, I have not yet experienc'd. But as *St Vitus's* dance happens only to children, if this method be used in the epilepsy in grown persons, more blood must be taken away, and the purgative made stronger.

Of the apoplexy.

1. **A**N apoplexy is a total deprivation of sense, and motion, excepting that of respiration, which is performed with difficulty and snoring.

2. Take away twelve ounces of blood immediately from the arm, and afterwards eight from the jugular, and presently after exhibit a vomit of an ounce and a half, or two ounces of the infusion of *crocus metallorum*.

3. Apply a large sharp blistering plaister between the shoulders, and during this procedure, let the patient sit upright in bed, and a vial of highly rectified spirit of sal-ammoniac be held to his nose.

4. As soon as the vomit has done working, give three or four spoonfuls of the following julap, repeating the dose at proper intervals.

Take

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Take of rue water, four ounces; compound briony and piony water, of each an ounce; spirit of hartshorn, twenty drops; fine sugar, enough to sweeten it; mix the whole for a julep.

Or a spoonful of the compound spirit of lavender may be given by itself twice or thrice during the fit, at an hour, or half an hour between every dose.

5. Care must be had not to administer too hot cordials, nor to give them too often, as is commonly done; for whatever specific virtue they may seem to be possessed of, they do more mischief than good, as being apt to dissolve the juices, and consequently to increase the disease: which inconvenience is likewise occasioned by keeping the patient too warm.

6. After the fit is over, let the following medicines be used to prevent a relapse. Give two scruples of the greater *pil. cochicæ*, made into pills, at four a clock in the morning, so that the patient may sleep upon them, and repeat them every third day to six doses.

Take of the conserves of the flowers of sage and rosemary, each an ounce; the conserve of orange peel, six drams; candied nutmegs and candied ginger, each half an ounce; old Venice treacle, two drams; the powders for the electuaries of diambra and sweet musk, each a dram; syrup of candied citron, a sufficient quantity to make them into an electuary; of which let the quantity of a chestnut be taken morning and evening, drinking after it two spoonfuls of compound piony water.

Take of ambergrease, half a dram; the distill'd oils of aniseeds, cinnamon and nutmegs, each two drops; oil of cloves, one drop; fine sugar, (dissolv'd in the distilled water of orange flowers) four ounces; make them into troches, according to the rules of art; one of which may be taken at pleasure.

7. The patient should refrain from all kinds of spirituous liquors, and live upon water-gruel, barley and chicken-broth, and sometimes also upon chicken, lamb, and the like food of easy digestion, especially on those days he purges,

Of an inflammation of the eyes.

1. **T**HIS disorder manifests itself.

2. Take away ten ounces of blood from the arm, and next day exhibit my common purging potion, which must be repeated a third time, allowing two days between every purge; and at night, after the operation is over, give a quieting draught of an ounce of syrup of white poppies.

3. On the intermediate days of purging, let him take four ounces of an emulsion made with the greater cold seeds, and white poppy seeds, three or four times a day.

4. After the first purge, let the following eye-water be used.

Take of the distill'd waters of plantain, roses, and frog-spawn, each an ounce; prepar'd tutty, reduc'd to powder, a dram; mix them for an eye-water, of which let a few drops be drop'd into the eyes twice every day.

5. If the disorder yields not to these remedies, let bleeding be repeated once or twice more (especially if the blood resembles that taken away in a pleurisy) and purging likewise.

6. The patient should forbear wine, and all spirituous liquors, and all kind of food that is salt and hard of digestion, and on the intermediate days of purging, drink milk boil'd with water.

7. It must be observ'd, that bleeding and purging, tho' repeated with the greatest frequency, often prove ineffectual in an inflammation of the eyes, in which case an ounce of the syrup of white poppies, administer'd every night, perfects the cure without any other helps from medicine.

Of the bearing down of the womb.

1. **T**AKE of oak-bark, two ounces; boil it in two quarts of spring-water to one, adding towards the end of the operation, pomegranate bark, bruised, red rose leaves and balaustines, of each two handfuls; and lastly, half a pint of red wine: strain off the liquor for a fomentation, to be applied with flannels in the usual manner, every morning two hours before the patient gets up, and at night, after she is in bed, till the disorder goes off entirely. O

Of a fit of the stone in the kidneys.

1. **I**T is accompanied with the following symptoms. (1.) A fixt pain in the region of the loins, (2.) bloody urine, (3.) the voiding of a stone or gravel, (4.) a numbness of the leg on the side affected, (5.) the testicles of the same side drawn into the *scrotum*, and (6.) a nausea and vomiting. The colic is not much unlike a fit of the stone, tho' it manifestly differs from this disorder in some symptoms, which we have already enumerated in treating of the bilious colic. *

2. If the patient be of a sanguine constitution, take away ten ounces of blood from the arm of the contrary side, then let a gallon of posset-drink, wherein two ounces of marshmallows have been boil'd, be drank as expeditiously as possible, and the following glyster injected.

Take of the roots of marshmallows, and lillies, each an ounce; the leaves of mallows, pellitory, bear's breech, and camomile flowers, of each a handful; linseed and fenugreek seed, each half an ounce; boil them in enough spring-water to leave a pint and a half strain'd liquor for a glyster.

3. When the posset-drink is thrown up, and the glyster come away, give a sufficiently large dose of liquid laudanum, for instance, twenty five drops, or fifteen or sixteen grains of *Matthew's pil.*

4. But in persons in years, and such as are much weakened by a long continuance of the disease, and likewise in aged women that are subject to the vapours, bleeding is to be omitted, especially if they part with black sandy urine in the beginning of the fit, but in all other respects the above-mention'd method is to be followed.

Of bloody urine from the stone in the kidneys.

1. **T**HE patient should take weekly on a set day, two ounces and a half of manna, dissolv'd in a quart of whey.

2. It is proper sometimes to drink a large draught of small beer.

3. If there be a large stone in the kidneys, a heavy

* See pag. 172.

dull pain is felt, which increases not at all, is not violent, nor accompanied with a fit of the stone.

4. The patient cannot safely enter upon a course of the steel waters, without being first well assured that the stone is not too large to pass the ureters, which can only be certainly learnt from his having had a fit of the stone before, attended with a very severe pain in one kidney, extending thro' the whole duct of the ureters, and enormous vomiting, in which case he may be certain there is no large stone, but rather a number of small ones, one of which will fall from time to time into the ureter, and so cause a fit, which seldom terminates, till the stone is protruded into the bladder. Now in this case there is not a more efficacious remedy, than a course of steel waters. But if the patient hath never had a nephritic fit, by reason of the stone's being too large to drop from the *pelvis*, these waters must be refrain'd.

Of the dysentery, looseness, and tenesmus.

1. **T**HE dysentery, or bloody flux begins with (1.) a chillness and shaking, succeeded (2.) by a heat of the whole body, and soon after (3.) by gripes, and these (4.) by frequent mucous stools, accompanied with violent pain, and a painful descent as it were of the bowels at every stool, but sometimes an excrementitious stool intervenes, (5.) the stools are ordinarily streak'd with blood, but sometimes not the least blood is mixed with them throughout the whole course of the disease, (6.) pure blood is sometimes voided in the course of the distemper, and the bowels are affected with an incurable gangrene, (7.) if the patient be in the prime of life, or has been heated by cardiacs, a high fever rises, and the tongue is covered with a thick white *mucus*, and sometimes is dry and black, (8.) a loss of strength and spirits are joined with the fever, and the inward parts of the mouth and throat are affected with *aphthæ*, especially if the evacuation of the peccant matter hath been injudiciously check'd by astringents, without having been first carried off by purgatives. Sometimes the dysentery is unattended with a fever, and begins with gripings, which are succeeded with the other symptoms of this disorder.

2. In

2. In a loofness, excrementitious humours are voided mixed with blood, and there is no ulceration of the bowels.

3. In a tenefmus there is a continual inclination to go to stool, yet nothing is voided but a bloody or purulent mucous matter.

4. Bleed immediately in the arm, and the same evening give an opiate, and next morning my common purging potion, and repeat it twice more, allowing a day between each purgation, and exhibiting an opiate also after every purge, as soon as the operation is over; but on the intermediate days of purging, give it morning and night.

5. After bleeding and purging once, let the following cardiac be taken throughout the whole course of the disease.

Take of the distill'd waters of black cherries and strawberries, of each three ounces; plague water, compound scordium water and small cinnamon water, of each an ounce; prepar'd pearl, one dram and a half; fine sugar, enough to sweeten the whole, and half a dram of rose water to give it an agreeable taste; make a julap, of which let the patient take four or five spoonfuls when faint, or at pleasure.

6. The patient's common drink should be milk boil'd with thrice the quantity of water, or the white decoction made as follows.

Take of burnt hartshorn, and the crumb of white bread, of each two ounces; boil them in three pints of water to a quart, and afterwards sweeten the liquor with a sufficient proportion of fine sugar.

7. Or if great weakness should require it,

Take of spring-water, a quart.; canary, half a pint; boil them together a few minutes, and let it be drank cold for common drink.

8. When the patient hath been purged thrice, the cure depends entirely on exhibiting laudanum twice or thrice a day, only a glyster made of half a pint of milk, and an ounce and a half of *Venice* treacle, should be given now and then; it being an excellent remedy in all kinds of loofnesses.

Complete methods of curing most diseases.

9. When the flux amounts to no more than a looseness, omit the bleeding and purging above prescribed, and give the following bolus every morning.

Take of rhubarb, half a dram ; (more or less in proportion to the strength of the patient) diascordium, enough to make it into a bolus ; to which add two drops of the oil of cinnamon.

10. In the evening, after the operation is over, administer an opiate.

Take of small cinnamon water an ounce ; liquid laudanum, fourteen drops ; mix them for a draught.

11. The dry gripes are cured by diluting with cold whey, and giving glysters of the same warm, in the same manner as we directed to be done in the *cholera morbus*, with chicken broth, or posset-drink.

12. If this disease proves of long standing, so as to be totally fixt in the *rectum*, and attended with a continual inclination to go to stool, a restorative diet must be ordered, and some cordial liquor taken at pleasure to recruit the strength, and the *tenesmus* will go off spontaneously, as the strength returns.

13. If the dysentery hath been ill treated, it sometimes afflicts the patient for some years, in which case repeated bleeding will restore him to his former health.

14. It is to be observed, that in those constitutions of the air which have a less tendency to promote this disease, omitting the evacuations above specified, it may be cured with laudanum only, which is to be repeated morning and night, or even thrice a day, if there be occasion, till the symptoms totally vanish.

Of the bilious colic.

1. **I**T is a violent pain of the bowels, which begins with (1.) a fever that lasts a few hours, and terminates in this disease, wherein (2.) the bowels seem to be tied together, or purs'd up, and perforated as it were, with some sharp pointed instrument, and the pain abates between whiles and soon comes on again, (3.) in the beginning the pain is not so certainly fixt in

in one place, nor the vomiting so frequent, and the belly yields with less difficulty to purgatives, (4.) but the more the pain increases, the more obstinately it fixes in one place, (5.) the vomiting returns oftner, and the belly is more costive, the disorder at length degenerating into an iliac passion.

2. It is known from a fit of the stone by the following signs. (1.) In the stone the pain is fixt in the kidney, and extends from thence along the ureter to the testicle; whereas in the colic it shifts and straitens the belly as if it was bound with a girdle. (2.) In the colic the pain increases after eating, but in the stone it rather abates. (3.) The colic is more relieved by vomiting and purging than the stone. 4. In the stone the urine is at first clear and thin, but afterwards lets fall a sediment, and at length gravel and small stones are voided therewith; whereas in the colic the urine is turbid from the beginning.

3. Bleed plentifully in the arm, and after three or four hours, give an opiate: next day exhibit a lenient cathartic, and repeat it a third time, allowing a day between each dose.

4. But if this disorder proceeds from a surfeit of fruit, or any other aliment, the stomach must first be well cleansed by drinking a large quantity of posset-drink, and after it is thrown up, administering an opiate. Next day recourse must be had to bleeding, and afterwards the process above delivered is to be followed in the manner there prescribed.

5. When this disease, by reason of wrong management, proves of long standing, and brings the patient to the brink of the grave, plague water, the wonderful water, or any other cordial he liked best when in health, drank plentifully, gives surprising relief.

Of the cholera morbus.

1. **T**HIS disease prevails only in *august*, and seldom reaches to the first week of *September*. The disorder occasioned by a surfeit, which happens at any time of the year, tho' curable by the same method, is notwithstanding of a very different kind. The *cholera morbus* hath the following symptoms. (1.) Immoderate vomiting, and a discharge of vitiated humours down-

downwards, with great pain and difficulty, (2.) violent pain and swelling of the *abdomen* and bowels, (3.) heart-burn, (5.) thirst, (6.) quick, small, and irregular pulse, (7.) heat, and restlessness, (8.) great nausea, (9.) sweating, (10.) contraction of the limbs, (11.) fainting, (12.) coldness of the extremities, and the like symptoms, which destroy the patient in the space of twenty four hours.

2. Let a chicken be boil'd in about three gallons of water, so that the liquor may scarce taste of the flesh. The patient must drink several large draughts of this weak broth, warm, or, for want of it, of posset-drink, and at the same time glysters of it are to be given successively. An ounce of the syrup of lettuce, purslain, or water-lilly may be now and then added to the draughts and glysters.

3. When the business of cleansing the stomach and bowels is over, which requires three or four hours, an opiate completes the cure.

4. But if the physician be not called, till the patient is exhausted by the continuance of the vomiting and purging for several hours, and the extremities are grown cold, he must immediately have recourse to liquid laudanum, and give a large dose of it; for instance, twenty five drops in an ounce of strong cinnamon water, and repeat the laudanum daily, morning and night, but in a less dose, even after the symptoms are gone off, till the patient recovers.

5. There is a kind of *cholera morbus*, occasioned by dentition, or a surfeit, which frequently attacks children, and often destroys them.

6. And, as by reason of their tender age children cannot bear to have their stomachs cleans'd with large quantities of liquor, and much less the raising a greater disturbance in the humours by purgation, the cure is therefore to be attempted only by laudanum. For this purpose give three, four, or more drops thereof, in proportion to the age of the child, in a spoonful of small-beer, or some proper distill'd water, and repeat it as there is occasion.

Of the colic of the people of Poictiers.

1. **T**HIS is a kind of colic, which ordinarily degenerates into a palsy, and a total loss of motion of the hands and feet. *Riverius* describes it under this * name. 'Tis a common disorder in the *Caribbee* islands, where it seizes abundance of persons.

2. This severe pain is cured by giving balsam of *Peru* often in a large dose; for instance, twenty, thirty, or forty drops, in a spoonful of fine sugar, twice or thrice a day: but the palsy yields not to this remedy.

Of the iliac passion.

1. **I**N this disorder (1.) the peristaltic motion of the bowels is inverted, (2.) cathartics and glysters soon become emetic, and (3.) the excrements are vomited up.

2. Take away nine or ten ounces of blood from the right arm, and a few hours afterwards give the following powder.

Take of rosin of scammony, or, for want of it, of jalap, twelve grains; calomel, a scruple; mix them together for a powder, to be taken in a spoonful of milk, drinking a spoonful or two of milk after it.

3. Or if pills are more agreeable,

Take of the pills of two principal ingredients, half a dram; calomel, a scruple; balsam of Peru, enough to make them into four pills, to be taken in a spoonful of syrup of violets.

4. If these pills be thrown up, exhibit twenty five drops of laudanum immediately in a spoonful of strong cinnamon water; and the vomiting and pain being abated hereby, repeat the purgative. But if the vomiting and pain return, after the virtue of the opiate is gone off, and the purgative still lodges in the body, we must return to the opiate again, and repeat it every fourth or sixth hour, till the bowels be made perfectly easy, when the purgative will operate in its usual manner.

* *Vid. op. River. cap. de paralys.*

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5. It is also proper to give a strong purging glyster an hour or two after bleeding; as for instance, the smoke of tobacco, forc'd up thro' a large bladder into the bowels by an inverted pipe, and this may be repeated in a few hours, unless a passage downwards be sooner opened.

6. As soon as the purgative hath done working, exhibit the following draught.

Take of strong cinnamon water, an ounce ; liquid laudanum, twenty five drops ; mix them together for a draught.

This draught must be repeated twice or thrice, or oftner in a day, till the vomiting and pain are quite gone off, and in order to compleat the cure, it is proper even after this, to give the same opiate in a less dose every night at bed-time, for some time.

Of the immoderate flux of the menses.

1. **T**HE menstrual discharge in its natural state is esteem'd to fill the shell of the egg of a goose. It is known to be immoderate by (1.) the difficulty of bearing it, (2.) loss of strength and appetite, (3.) cachexy, (4.) pale complexion, and (5.) swelling of the feet.

2. Take away eight ounces of blood from the arm, and next morning give my common purging potion, and repeat it every other day to a third time, exhibiting a dose of syrup of white poppies at night after the operation.

3. On the intermediate days of purging, let the following remedies be used.

Take of the conserve of dried roses, two ounces ; troches of Lemnian earth, a dram and a half ; pomegranate bark, red coral prepar'd, and Armenian bole, of each two scruples ; blood-stone, and dragon's blood, each a scruple ; syrup of quinces a sufficient proportion to make the whole into an electuary ; of which let the quantity of a large nutmeg be taken every morning, and at five in the afternoon, drinking six spoonfuls of the following julap upon it.

Take

Take of the distilled waters of oak-buds, and plantain, each three ounces ; small cinnamon water, and syrup of dried roses, each an ounce ; spirit of vitriol, as much as will make it agreeably tart.

Take of the leaves of plaintain, and nettles, each a sufficient quantity ; bruise them well together in a marble mortar, and press out the juice, and lastly clarify it. Let four spoonfuls of it be taken often, or at pleasure.

4. After the first purge apply the following plaister to the region of the loins.

Take of the red lead plaister, and rupture plaister, each equal parts, melt them down together, and spread the mass upon leather.

Of the hysteric colic.

1. **I**T is a kind of hysteric complaint, or rather a remarkable and common symptom of the hysteric passion, accompanied with a very violent pain of the parts near the *scrobiculum cordis*, and likewise with a discharge of green humours upwards.

2. The patient must drink a large quantity of posset-drink ; for instance, a gallon and a half, and throw it up again, that the abundance of vitiated humours lodg'd in the stomach may not hinder the effect of the quieting medicine ; and after the affair of vomiting is over, give twenty five drops of liquid laudanum, in an ounce of strong cinnamon water, plague water, or any other suitable vehicle.

3. With respect to the use of the opiate, let it be observed, that it must be repeated till the symptoms go off entirely, allowing a proper interval between every dose, that so we might conjecture what effect the last hath had before we exhibit another.

4. If the patient be of a sanguine constitution, or hath been little afflicted with this disorder formerly, and not much weaken'd thereby, bleeding in the arm should precede the vomit prescrib'd. The *clavus hystericus* yields likewise to the same treatment.

5. But

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5. But if the hysteric colic hath continued long, and attack'd by fits, it is proper in this case to use the following medicines in the intervals out of the fit.

Take of zedoary in fine powder, a dram ; syrup of candied citron, enough to make it into a bolus, to be taken morning and night for thirty days, with the following infusion after it.

Take of zedoary, thinly sliced, half an ounce ; canary, four ounces ; digest them together for twelve hours, without heat, then strain off the tincture.

Or balsam of *Peru* may be used as is directed in the colic of the natives of *Poictiers*.

6. It must be carefully noted that what is here said of the hysteric colic, is to be applied to the hypochondriac colic likewise. The nature of both these disorders should seem to require a trial to be made of several medicines, till we at length hit upon one, in a manner naturally curative of this disease: tho' in general steel is most serviceable here.

7. The hysteric colic both in hysteric and hypochondriac subjects often terminates in a jaundice, which goes off by degrees spontaneously ; but if it continues long, let the following apozem be exhibited.

Take of roots of madder and turmeric, each an ounce ; the roots together with the leaves of the greatercelandine, and the tops of the lesser centory, each a handful ; boil them together in equal quantities of Rhenish wine and spring water, to a quart ; and to the strain'd liquor add two ounces of the syrup of the five opening roots : mix them together for an apozem, of which let half a pint be taken warm every morning and night, till the cure be finish'd.

Of that kind of jaundice which does not succeed the colic.

1. **T**HIS disorder manifests itself by the following signs. (1.) a yellowness of the whole body, most visible in the whites of the eyes, (2.) a seeming yellowness of all objects, (3.) itching, (4.) heaviness, (5.) lassitude, (6.) bitterness of the tongue, (7.) bilious

lious vomiting sometimes, (8.) a hiccup, (9.) white excrements, (10.) the urine of a saffron colour, and staining linnen dipt therein yellow.

2. Exhibit my common purging draught, and then let the patient begin the following course of medicine, and during the continuance thereof, take the purging draught every fourth day.

Take of the conserves of roman wormwood, and orange peel, each an ounce; candied angelica and nutmegs, the compound powder of wake-robin, and steel prepar'd with vinegar, of each half an ounce; extract of the lesser centory and gentian root, and cream of tartar, of each two drams; saffron in powder, half a dram; syrup of the five opening roots, enough to make the whole into an electuary, of which the quantity of a nutmeg is to be taken every morning, and at five in the afternoon, drinking after the morning dose two quarts of the purging mineral waters, and after the dose in the afternoon, half a pint of the apozem set down under the article of the hysteric colic.

Or instead of this electuary the patient may take steel pills.

3. But if the signs of a dropsy appear, the apozem must be taken morning and night.

4. If notwithstanding the long continuance of this process, the disease yields little or not at all, the patient should be sent to drink the steel waters at the well-head.

Of preventing miscarriage.

1. **F**OR this purpose the same medicines are to be prescrib'd as in the immoderate flux of the menses; only omitting purgation, and the juices of the herbs.

Of the immoderate flux of the lochia.

1. **T**O constitute a natural flux of the lochia three things are required. (1.) a copious discharge of pure blood for the first three days, then (2.) of watery blood (like water in which raw flesh has been wash'd) for about four days more, and afterwards (3.) a vis-
cous

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cous mucilaginous matter, mix'd with little or no blood for the five or six immediately following days, and thence to the end of the month.

2. An immediate flux of the *lochia* is known by (1.) a loss of strength, (2.) fainting, (3.) the coming away of clotted blood, (3.) loss of appetite, (5.) pain in the *hypochondria*, (6.) a swelling of the *abdomen*, (7.) a weak and quick pulse, (8.) dimness of sight, (9.) noise in the ears, and (10.) convulsions.

3. An incrassating diet is to be directed, along with the following binding decoction.

Take of plantain water and red wine, each a pint; boil them together to the consumption of a third part, and then sweeten it with fine sugar. Let half a pint of it be taken twice or thrice a day.

4. In the mean time exhibit some weak hysteric julap, and let the following composition, or a small vial of of spirit of sal-ammoniac, be often held to the nose.

Take of galbanum and fetid asa, each two drams; castor, a dram and a half; volatile salt of amber, half a dram: mix them together for a nodule.

Of the suppression of the lochia.

1. **T**HIS disorder is accompanied with (1.) a swelling of the belly, (2.) a dull pain in the *abdomen*, loins, and groin, (3.) redness of the face, (4.) difficult respiration, (5.) a wild look, (6.) shivering, (7.) an acute fever, (8.) cold sweats, (9.) fainting, (10.) pulsation and heat in the womb, (11.) a palsy of the lower parts, and (12.) sometimes an epilepsy.

2. The patient should be put to bed forthwith, have an hysteric plaister applied to her navel, and immediately begin to take the following medicines.

Take of the conserves of Roman wormwood and rue, each an ounce; the troches of myrrh, two drams; castor, saffron, volatile sal-ammoniac, and fetid asa, of each half a dram; mix them all together and make an electuary thereof with a sufficient quantity of the syrup of the five opening roots; let the patient take the quantity of a nutmeg of it every four hours, drinking after it four or five spoonfuls of the following julap.

Take

Take the distill'd water of rue, four ounces ; compound briony water, two ounces ; fine sugar enough to sweeten it, and make a julap.

Or let her take a scruple of the troches of myrrh every four hours.

3. If after having taken these medicines in the quantity here ordered, the *lochia* still continues suppress'd, exhibit only once, fourteen drops of liquid laudanum, in a small quantity of compound briony water, or a grain and half of solid laudanum, and half a scruple of fetid asa, made up into two pills.

4. And these not availing, give only a single glyster of milk and sugar.

Of the dropsy.

1. **O**NE of the first signs of the dropsy, is the pitting of the leg, when the finger is forced against it, which is most apparent at night, but disappears in the morning, especially if the swelling of the legs be accompanied with a difficulty of breathing : tho' pregnant women, and those that labour under a suppression of the menses, and men that are suddenly freed from an inveterate asthma, often have swellings of a like kind. When the feet, legs, and thighs have received as much water as they can hold, it flows into the *abdomen*, and by degrees stretches it as tight as its coats will bear, till falling at length upon the vital and noble parts, the patient is destroy'd by a kind of deluge. In the same degree that the swelling of the parts affected increases, the other parts waste away, and at the same time a difficulty of breathing, the making little urine, and great thirst, accompany the distemper. The dropsy chiefly attacks men in years, and women after they are past bearing children.

2. The curative indications are (1. to evacuate the water, and (2.) to strengthen the blood, so as to prevent a fresh drain of water into the parts affected.

Take of white wine, four ounces ; jalap in fine powder, a dram ; powder'd ginger, half a scruple ; syrup of buckthorn, an ounce ; mix them all together for a draught to be taken early in the morning, and re-

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peated every day, or every other day, as the strength will bear, till the swelling of the parts affected vanishes.

Or,

Take of tamarinds, half an ounce ; the leaves of senna, two drams ; rhubarb, a dram and half ; boil them together in a sufficient quantity of spring-water, so as to leave three ounces of strain'd liquor, in which dissolve manna and solutive syrup of roses, of each an ounce ; syrup of buckthorn, half an ounce ; and of the electuary of the juice of roses, three drams ; mix them together for a draught, to be taken as the former.

Or,

Take of the pills of two principal ingredients, a scruple ; elaterium, three grains ; make them into three pills, to be taken betimes in the morning, and repeated as there is occasion.

Or,

Take of gamboge, fifteen grains ; white wine, and the distill'd water of succory, of each an ounce and half ; syrup of buckthorn, half an ounce ; mix them together for a draught, to be taken as above directed.

Or,

Take of the inner bark of elder, three handfuls ; boil it in a quart of milk and water equally mixt, to a pint, then strain it off : half of it to be drank every day in the morning, and the remainder at night, till the patient recovers.

But this medicine is serviceable only in such subjects as are easily purged.

3. With respect to purging in this disease, the three following cautions are to be observ'd.

4. (1.) It must be enquired whether the patient is easy or hard to purge ; because in the former case an ounce of syrup of buckthorn, given by itself will evacuate a sufficient quantity of water ; whereas in the latter case, the purgatives above set down, tho' of the strongest kind, will hardly answer the end.

5. (2.) All mild purgatives do more mischief than good, for which reason rough purging is preferable to weak.

6. (3.) The water should be carried off as speedily as the strength will permit, lest by purging only at distant intervals, we allow time for a fresh collection thereof.

7. But there are some cases where all kinds of purgatives must be forborn. Thus, for instance, in weak habits and hysteric women, the evacuation of the water is only to be attempted by diuretics, the most efficacious of which are prepar'd from lixivial salts.

Take of broom ashes, a pound; digest them without heat in two quarts of Rhenish wine; and take three ounces of the filtred liquor every morning, and at five in the afternoon, till the water be carried off.

8. When the water is all carried off, heating and strengthening medicines are to be used.

Take of horse-raddish root, the leaves of common wormwood, scurvy-grass and sage, and the tops of the lesser centory and broom, of each a sufficient quantity; infuse them in strong beer, and use it for common drink.

This medicated beer does sometimes cure a recent dropsy without the assistance of purgatives: but instead of it the following medicines may be taken.

Take of the conserves of Roman wormwood and scurvy-grass, each an ounce; the extract of gentian, common wormwood, and the lesser centory, of each three drams; syrup of citron-peel, enough to make the whole into an electuary, of which the quantity of a nutmeg is to be taken every morning, at five in the afternoon, and at night, drinking after it four ounces of the following infusion.

Take of gentian root, the tops of broom, the lesser centory, and common wormwood, each an handful; the seeds of fennel and parsley, each two drams; slice and bruise the ingredients, and pour upon them two quarts of Rhenish wine, and let them stand together to infuse without heat, and the liquor be strain'd off, only when wanted.

9. It is to be noted, that purgatives must absolutely be forborn, during the use of strengthening medicines, and likewise whilst we exhibit lixivial salts, with which however strengthening medicines may be commodiously given.

Take of horse-raddish root, three ounces ; the leaves of scurvy-grass, common wormwood and sage, and the tops of the lesser centory and broom, of each three handfuls ; three Seville oranges ; infuse all together in six gallons of ale made without hops, whilst it is working, and let it be used for common drink.

Of a gonorrhœa virulenta, or venereal running.

1. **T**HIS disorder begins with an uncommon pain in the parts of generation, and a kind of rotation of the testicles ; and in such as have not been circumcis'd, a spot not unlike the measles appears upon the *glans*, soon after which a fluid resembling *semen* flows therefrom, which changes every day both in colour and consistence, and at length turns yellow, but paler than the yolk of an egg ; and when this disease is more virulent and degenerated into the pox, this matter becomes green, and is mix'd with a watery humour, streak'd with blood. The pustule upon the *glans* terminates at length in an ulcer, resembling the *aphthæ* in the mouths of children, and spreads and eats deeper every day, and the lips grow callous. Those that have undergone circumcision, or have the *glans* bare, have no ulcer in this part, but only the *gonorrhœa*. The running is soon succeeded by a pain in the *penis* at every erection, as if it were violently squeez'd with the hand, which symptom happens chiefly in the night, when the patient grows warm in bed. The *penis* is bent by the contraction of the *frænum*, and with these symptoms are join'd a heat of urine, scarce felt at the time of making, but immediately afterwards the patient is sensible of a burning heat all along the duct of the *urethra*, and especially at its termination in the *glans*. Sometimes caruncles prevent the exclusion of the urine, and sometimes a pain and inflammation of the *scrotum* succeed.

2. Let

2. Let four of the following pills be taken every morning till the heat of urine be much abated, and the running grown considerably paler, or whitish, then every other day for a fortnight, and at last twice a week till the running ceases.

Take of the greater pills called cochia, three drams; the extract of rudius, a dram; rosin of jalap, and scammony, each half a dram; opobalsamum, enough to make them into a mass, every dram whereof is to be made into six pills.

3. Those that are hard to purge may take my purging potion now and then between the pills, to which may be added syrup of buckthorn, and the electuary of the juice of roses, of each two drams: or, if the cure goes on slowly, eight grains of turbith mineral may be given twice or thrice, interposing four days between each dose; or, instead of it the following.

Take of the pills of two principal ingredients, half a dram; sweet mercury, a scruple; opobalsamum, enough to make them into four pills, to be taken early in the morning.

4. If the patient has an aversion to this method of purgation, after having taken the pills above prescribed for three mornings running; let the following glyster be given every morning, and at five in the afternoon; only once or twice a week administer a purgative, and omit the glyster.

Take of the electuary of the juice of roses, six drams; Venice-turpentine, dissolv'd with enough yolk of egg, half an ounce; dissolve them in a pint of barley water, and add two ounces of syrup of violets to the strain'd liquor: mix the whole for a glyster.

5. Exhibit twenty five drops of opobalsamum, or balm of Mecha, dropt upon a lump of fine sugar, every night; or instead of it the quantity of a hazle-nut of Cyprus-turpentine. His common drink should be milk boild with thrice as much water, and small-beer at meals.

6. Or you may proceed in this manner.

Take of the pills of two principal ingredients, half a dram ; opobalsamum, three drops ; make them into three pills to be taken at four in the morning, sleeping upon them, and let them be repeated every other, or every third day.

7. On the intermediate days of purging, give the glyster above prescrib'd, in the morning, and at five in the afternoon.

8. Whatever method of cure be used, the patient must be blooded once or twice towards the middle of the course ; and a cooling and thickening diet order'd, along with medicines of the same kind ; as milk and water, emulsions of the four greater cold seeds, and the like.

9. If the *penis* be swell'd.

Take of the roots of marshmallows and white lillies, each an ounce and half ; the leaves of mallows, mullein, elder, and henbane, and the flower of camomile and melilot, of each an handful ; the seeds of flax and fenugreek, each half an ounce ; boil them together in a sufficient quantity of spring-water for a fomentation, to be applied to the part affected for the space of an hour, twice or thrice a day.

After fomenting the part, let it be anointed with fresh linseed oil, and then apply the mucilage plaister spread on leather, to the swell'd lips of the prepuce.

10. But if the lips of the prepuce, or *glans* be ulcerated, have recourse to the following liniment.

Take of the ointment basilicon, six drams ; the ointment of tobacco, two drams ; red precipitate, (wash'd in rose-water and levigated) half a dram ; mix them together for a liniment, to be applied upon lint to the ulcer, after using the fomentation above set down.

11. If the *scrotum* be swell'd, take away blood from the arm immediately, and apply the abovementioned fomentation twice a day to the part affected, adding a spoonful or two of spirit of wine to it, every time it is used : or instead of it, use a cataplasm made of oxycrate and bean-meal.

12. In the mean time purgatives and coolers above-
enumerated, must be given inwardly.

Of the venereal disease.

1. **W**HEN the blood is tainted by the long continuance of a *gonorrhœa*, or the unadvised use of astringents, the true pox appears, which is attended (1.) with buboes in the groin; (2.) pains in the head, and limbs between the joints, which chiefly come in the night, after the patient is warm in bed; (3.) yellow scabs also and scurf in different parts of the body, which resemble an honey-comb, and the more they spread, the less pain the patient feels; (4.) *exostoses* in the *cranium*, legs and arms; (5.) inflammation and *caries* of the bones; (6.) phagedenic ulcers in various parts of the body, which generally seize the throat first, and eat by degrees thro' the palate, to the cartilage or bridge of the nose, which they soon consume, so that the nose for want of its support falls flat; (7.) the ulcers, *caries*, and pains increasing every day, the limbs rot away piece-meal, and the mangled carcass being at length grown hateful to the living, is buried in the earth.

2. *Take of hog's lard, two ounces; quicksilver, an ounce; mix them together, according to the rules of art for a liniment to be divided into three equal parts, with one of which the patient is to anoint his arms, thighs, and legs, with his own hand, for three nights running.*

3. If the salivation rises not in three days after the last unction, eight grains of turbith mineral may be given in a little conserve of red roses, or in weak habits a scruple of sweet mercury. If the salivation abate before the symptoms are quite gone off, it must be increased by exhibiting now and then a dose of sweet mercury occasionally.

4. The salivation should be so regulated that the patient may spit about two quarts in the space of twenty four hours.

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5. If it rises too high, and is accompanied with great inflammation, and other symptoms of a like kind, it must be lower'd to a proper degree by purgatives.

6. As soon as the symptoms are gone off, the patient's linnen should be chang'd for what has been worn since it was wash'd.

7. If a looseness succeed, as it generally does soon after the salivation rises, it must be stopt by administering laudanum; increasing and repeating the dose, till it hath produced the desired effect.

8. If the mouth be ulcerated, it must be gargariz'd or wash'd with rose-water, milk and water, or the following gargarism.

Take of the roots of marshmallows, and pearl barley, of each an ounce; quince seeds, half an ounce; boil them together in enough spring-water to a quart, for a gargarism, to be frequently used.

9. The same regimen and diet are to be order'd in a salivation, as are used in a course of purging; only the patient may live upon posset-drink, water-gruel, barley-broth, and warm small-beer for a few days in the beginning of the course.

10. The course being duly finish'd, tho' the symptoms should seem gone off, and the distemper consequently cur'd, yet, in order to prevent a relapse, the patient should take a scruple of sweet mercury, once a week, for a month, or six weeks, tho' he appears to be perfectly well and goes abroad.

Of the fluor albus.

1. **T**HE flux in this disorder is sometimes white, sometimes pale, yellow, green, or blackish, sometimes sharp and corroding, and sometimes of a pungent ill smell. It is accompanied with a paleness of the face, a pain in the back-bone, loss of appetite, and a swelling of the eyes and legs.

2. Take away eight ounces of blood from the arm, and next morning at four o' clock let the following pills be taken, sleeping upon them; and repeat them twice more, allowing a day or two between every dose according to the strength of the patient.

Take

Take of the greater pil. cochia, two scruples ; castor, two grains ; balsam of Peru, three drops ; make them into four pills.

Take of the distill'd water of rue, four ounces ; compound briony water, two ounces ; fine sugar enough to sweeten them, and make a julap, of which let the patient take three or four spoonfuls, whenever she is faint.

Take of Venice-treacle, an ounce and half ; conserve of orange-peel, an ounce ; diascordium, half an ounce ; candied ginger and nutmeg, each three drams ; Gascoign's powder, a dram and half ; the outward bark of pomegranate, Spanish angelica root, red coral prepar'd, and the troches of Lemnian earth, of each a dram ; Armenian bole, two scruples ; gum-arabic, half a dram ; syrup of dried roses, a sufficient quantity to make them into an electuary, of which let the patient take the quantity of a large nutmeg, every morning, at five in the afternoon, and at bed time, for the space of a month, drinking after it six spoonfuls of the following infusion.

Take of the roots of ellicampane, masterwort, angelica, and sweet cane, each half an ounce ; the leaves of Roman wormwood, white horehound, and lesser centory, common calimint, and dried sage, of each an handful ; juniper berries, an ounce ; slice and bruise these ingredients, then pour upon them two quarts of canary, and let them stand together to infuse without heat, and strain it off as it is used.

3. The patient ought to live upon food of easy digestion, forbear all kinds of greens and fruit, and drink canary at meals.

Of a Diabetes.

1. **I**N this distemper the juices carried into the blood, being crude and indigested, pass off by urine, which by degrees impairs the strength, and wastes the body, the substance of which is in a manner drain'd thro' this strainer : it is accompanied also with thirst,
heat

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heat of the *viscera*, a swelling of the loins and hips, and a frequent sputation of a frothy *saliva*.

2. The same medicines are to be prescrib'd in this case, as in the *fluor albus*, except bleeding and purging.

Of the piles.

1. **T**HEY occasion violent pain in going to stool, and the outside of the excrements appears streak'd with blood: they are small tumours like warts, which sometimes lie conceal'd in the *sphincter*, and sometimes appear outwardly in the *anus*.

2, Take away ten ounces of blood from the right arm.

Take of melon and pumpkin seeds, each half an ounce; white-poppy seeds, two drams; five blanched sweet almonds, beat them together in a marble mortar, and pour on by degrees a pint and half of barley water; to the strain'd liquor add two drams of rose-water, and enough sugar to sweeten it. Let three ounces of this emulsion be taken often.

Take of the flower of sulphur, liquorice powder, and sage reduc'd to powder, of each a dram; Lucatellus's balsam, enough to bring them into a mass for pills; and make six pills of a dram, three of which must be taken three times a day, drinking after them six spoonfuls of the emulsion above prescribed.

3. Apply a piece of linnen dipt in the following mixture to the part affected, or if the tumour be internal, throw up three spoonfuls of it into the *anus* with a syringe.

Take of the distill'd water of frog-spawn, four ounces; dissolve therein two drams of litharge, and a scruple of opium, and make a mixture.

4. The patient should use milk, boil'd with thrice as much water for his common drink,, forbear flesh, and take a dose of syrup of white poppies every night.

Of the immoderate bleeding of the piles.

1. **T**HIS disorder manifests itself, (1.) by the loss of strength; (2.) the large quantity of blood voided, and the long continuance of the flux; (3.) the ill colour of the skin, which looks yellowish, as in the jaundice, and these symptoms are succeeded by (4.) a cachexy; and (5.) afterwards a dropfy.

2. The same medicines may be advantageously used in this case, as in the immoderate flux of the menses, purging only excepted.

Of the epilepsy, or falling-sickness in children.

1. **C**Hildren are seiz'd with this disorder, either in the first month after a looseness, in which case a few grains of diascordium, dissolv'd in the distill'd water of saxifrage, or the mother's milk is an excellent remedy: or it attacks them about the time of dentition, from the seventh to the tenth month, and is attended with a cough, or, which is much worse, a vomiting and looseness, with green stools, as is usual in hysteric subjects.

2. Sometimes the fit comes suddenly, distorting the mouth and eyes, causing the face to turn black, and convulsing the limbs. Sometimes the fit is known to be coming by an involuntary contraction of the finger into the palm of the hand, and an uncommon fixedness of the eyes. The fits are sometimes long and sometimes short; and sometimes return at set times, and at others keep no certain period: but upon the approach of death they follow one another very close. Children are subject to a drowsiness in the intervals, till they are rouz'd by a fresh fit.

3. Apply a blistering plaister immediately to the neck.

Take of compound piony water, three drams; liquid laudanum, a drop or two, or more drops, according to the age of the child; syrup of piony, a dram; mix them together for a draught to be taken directly.

Take

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Take of the distill'd water of rue, three ounces; compound piony water, and compound briony water, each an ounce; syrup of clove-july flowers, half an ounce; mix them together for a julap, a spoonful of which is to be given the child every hour, if the draught above prescribed does not remove the fit.

Of the rickets.

I. THE rickets are attended with a laxness, fluxidness, weakness, and unequal nutrition of the parts of the body: thus, (1.) the head is over-large; (2.) the face too full and florid; (3.) the muscles of the neck wear away; (4.) knotty excrescencies appear in the joints, especially in the wrists, but less in the ankles; (5.) the tops of the ribs are swell'd; (6.) the bones grow crooked, especially those of the legs, the arms, next, and sometimes also the shoulder and thighs; (7.) the teeth come slowly and painfully, and grow loose, black, and fall out by pieces; (8.) the *thorax* is strait, and the *sternum* rises in a point; (9.) the *abdomen* and *hypochondria*, swell; (10.) a cough and disorders of the lungs succeed; (11.) and the patient cannot sometimes lie on the right side, and sometimes not on the left.

Take of the leaves of common wormwood, the lesser centory, white horehound, germander, scordium, common calamint, feverfew, meadow saxifrage, St John's wort, golden rod, wild thyme, mint, sage, rue, holy thistle, penny royal, southernwood, camomile, tansey, and lilly of the valley, all fresh gathered, and cut small, of each one handful; hog's-lard, four pounds; sheeps-suet, two pounds; claret, a quart; infuse them together in an earthen vessel upon hot ashes for sixteen hours, then boil them till the aqueous moisture is exhausted, and lastly press out the ointment, with which let the abdomen, hypochondria, and other affected parts, be anointed for the space of thirty or forty days, or till the child gets well.

Take of each of the ingredients above described, two handfuls; infuse them without heat in four gallons of beer, brew'd without hops, and let it be used for common drink.

2. In

2. In swellings of the belly in children, occasioned by immoderate evacuations, the blood of the *viscera* ought to be strengthened with strengthening herbs, as in the true rickets; but the arm-pits only, and not the limbs, must be anointed with the liniment above prescribed.

Of fevers caus'd by dentition.

1. **G**IVE two, three, or four drops of spirit of hartshorn, more or less, according to the age of the child, in a spoonful or two of black-cherry water, or some other suitable vehicle, every four hours, for five or six times.

Of a hectic fever in children.

1. **I**N this disorder children languish without much heat, lose their appetite, and the body and limbs waste away.

2. Infuse two drams of rhubarb, slic'd thin, in a quart of small-beer, and let the child use it for common drink; and this being finish'd pour another quart of small-beer upon the same rhubarb, and so a third time. But if it purges too much at first, after the child has drank a pint of it, add another pint of small-beer to the remainder.

Of the convulsive, or whooping cough in children.

1. **T**HIS otherwise obstinate, and almost incurable disorder, yields to bleeding and repeated purging only; but none but lenient purgatives are proper here, and must be exhibited by spoonfuls, suiting the dose to the age of the child.

Of bleeding at the nose.

1. **T**HIS complaint is accompanied with pain and heat in the fore-part of the head.

2. Bleed often in the arm, and order a cooling and thickening diet, along with a cooling and thickening julap, and a cooling emulsion.

3. Give

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3. Give a cooling glyster every day, and an opiate of fyrup of white poppies, every night ; and exhibit my common purging potion once or twice.

4. Apply a piece of linnen four times doubled, dipt in a solution of salt prunella, in cold water, and gently squeez'd out, to the nape and both sides of the neck often in a day

5. And after due evacuations let the following liquor be used.

Take of Hungarian vitriol, and rock allum, each an ounce ; the phlegm of vitriol, half a pint ; boil them together till the salts are dissolved ; filtre the liquor when it is cold, and seperate it from the crystals that shoot between whiles ; lastly, add a twelfth part of oil of vitriol to the remaining liquor.

Or, which is better,

Take of plantain water, three ounces ; Armenian bole, very finely powder'd, half an ounce ; mix them well together : put up a tent of lint, dipt in this mixture into the bleeding nostril, and keep it there two days.

6. If these applications avail not, make a solution of *Roman vitriol* in common water, dip a tent therein, and thrust it up the nose : compresses dipt in this liquor, and applied to the part affected, stop any outward bleeding.

Of the chlorosis, or green-sicknefs.

1. **T**HIS indisposition is attended with (1.) a bad colour of the face, and whole body ; (2.) a swelling of the face, eye-lids and ankles ; (3.) heaviness of the whole body ; (4.) a tension and lassitude of the legs and feet ; (5.) difficult respiration ; (6.) palpitation of the heart ; (7.) pain in the head ; (8.) feverish pulse ; (9.) drowiness ; (10.) an unnatural longing for such things as are noxious, and unfit for food ; and (11.) a suppression of the menstrual discharge.

2. Let the steel pills, or powder, ordered in the hysteric passion, be taken in a dose adapted to the age of the patient, with a few spoonfuls of wine after it,

or

or of the strengthening infusion made with the roots of angelica there set down. And if the patient be not very weak, give her a purge or two, before putting her into this course of medicine.

Of a suppression of the menses.

1. **T**HIS disorder is accompanied with (1.) a loathing of food ; (2.) bad colour ; (3.) universal indolence ; (4.) pain in the fore-part of the head, *abdomen*, loins and legs, and (5.) a swelling of the feet.

2. The same medicines are to be prescrib'd in this case as in the hysteric passion ; but if it yields not to them, the following process must be directed.

3. Exhibit five spoonfuls of the hysteric julap without castor, with twelve drops of spirit of hartshorn, every morning, and at four in the afternoon, and a scruple of the troches of myrrh, made into a bolus, or pills, with syrup of mugwort, every night at bedtime.

Of vomiting, or spitting of blood.

1. **A** Spitting of blood is accompanied with pain and heat in the breast, and some kind of debility.

2. Take away ten ounces of blood from the right arm, and next morning give my common purging potion, and the same night an opiate.

Take of black cherry water, three ounces ; syrup of white poppies, an ounce ; mix them together for a draught.

3. Then let the patient begin to take the following medicines.

Take of Armenian bole, an ounce ; comfrey root, in powder, two drams ; seal'd earth, blood-stone, and dragon's blood, of each a dram ; fine sugar, the weight of all the other ingredients ; mix them together for a powder, a dram of which is to be taken every morning, at five in the afternoon, and at night, drinking four ounces of the following apozem upon it.

Take

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Take of the leaves of plantain, the bramble and yarrow, each a handful; boil them in a sufficient proportion of water to a pint and half; and dissolve two ounces of the syrup of comfrey in the strained liquor; mix them together for an apozem.

Or instead of it, let the patient take six spoonfuls of the following tincture.

Take of the leaves of red roses, and the inner-bark of oak, each half an ounce; the seeds of plantain, a little bruised, three drams; spring-water a quart; spirit of vitriol, enough to give it a grateful acidity; infuse them together in a close vessel, with a gentle heat for four hours; to the strained liquor add three ounces of small cinnamon water, and fine sugar, enough to give the tincture an agreeable taste.

4. If he has an aversion to powders, he may use electuary prescribed in the immoderate flux of the menses.

5. Let a glyster be given every day, and a dose of syrup of poppies every night at bed-time.

6. Bleeding is also to be repeated again a first, second, or third time, at convenient intervals, and the purging potion given once more, if necessary.

7. A cooling and thickening diet is to be used.

Of the puncture of a tendon.

1. **I**N this case a watery humour, or ichor flows continually from the orifice of the opened vein.

Take of the roots of the white lilly, four ounces; bruise and boil them till they grow soft in a quart of milk; then add oatmeal and linseed flower, of each three ounces; boil them to the consistence of a cataplasm in the milk wherein the white lilly roots have been boiled; and apply it to the parts affected morning and night.

Of burns.

1. **B**ATHE the part affected with a piece of linnen dipt in spirit of wine till the pain ceases; and renew the application three or four times a day.

Of

Of the common madness.

1. **T**HIS disorder proceeds from the over-richness and spirituousness of the blood. But there is also another kind of madness, that succeeds an intermittent of long standing, and at length degenerates into ideotism, which arises from the depressed state of the blood, occasioned by its long fermentation. In this case therefore strong cordials are to be prescribed, such as *Venice treacle*, the electuary of the egg, the countess of *Kent's powder*, Sir *Walter Raleigh's cordial*, and the like, in plague water, or any similar vehicle along with a restorative diet.

2. But in the disorder under consideration, take away eight or nine ounces of blood from the arm in young subjects, and repeat the operation twice or thrice, at the distance of three days between each bleeding, and then bleed once in the jugular. Afterwards the cure depends wholly upon the use of the following purgative, which must be administer'd every third or fourth day, till the patient recovers: observing in the mean time to omit it for a week or a fortnight, after the patient has been purged eight or ten times.

*Take of the root of white briony in powder, a dram ;
milk, four ounces ; mix them together for a draught.*

Or,

*Take of the root of white briony, half an ounce, or six
drams ; let them stand a night in infusion, and dis-
solve an ounce of syrup of violets in the strained li-
quor : mix the whole for a draught.*

Or,

*Take of gamboge, fourteen grains ; black cherry water,
three ounces ; syrup of clove-july-flowers, half an
ounce ; mix them together for a draught.*

Of bruises.

1. **T**AKE away ten ounces of blood from the arm of the affected side, and next morning exhibit the common purging potion, and then repeat bleed-

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ing

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ing and purging by turns in this manner, till the cure is completed. In the mean time, if the inward parts be hurt, let the following medicine be used throughout the course of the cure.

Take of the common pectoral decoction, a pint and half; syrup of violets and maiden-hair, of each two ounces; mix them together for an apozem, half a pint of which is to be taken thrice a day.

2. A spoonful of fresh drawn oil of sweet almonds may be given often.

Take of the oil of sweet almonds, ointment of marshmallows, and pomatum, each an ounce; mix them together for a liniment, to anoint the affected part with morning and night, covering it with a cabbage leaf.

Of the scab of the head.

1. **E**Xhibit the common purging potion, and afterwards anoint the whole head with the following liniment, rubbing it in well, and then cover it with a bladder.

Take of oil of bitter almonds, and bay leaves, and the ashes of southernwood, of each an ounce; mix them well together for a liniment.

2. The head should be shaved in the first place, and then the scales rubb'd off every morning by degrees, at they grow loose.

Of the bite of a mad dog.

1. **I**N forty days, or more after the bite, the signs of melancholy appear, which are (1.) a fever; (2.) thirst; (3.) *hydrophobia*, or dread of water, and at length (4.) convulsions of the extremities.

Take of highly rectified spirit of wine, four ounces; Venice treacle, an ounce; make a mixture of them, with which let the wounded part be bathed thrice a day, covering it with a piece of linnen dipt in the same.

Of

Of an ulcer of the bladder.

1. **T**HE symptoms in this disorder are (1.) a voiding of fetid matter, or blood, and sometimes scales along with the urine; (2.) a *dysuria*, and pain in the urinary passages.

2. In an ulcer of the kidneys, (1.) small fleshy excrescencies, and sometimes membranes are voided with the urine; (2.) the *dysuria* and pain come by intervals; (3.) the matter also that comes from the kidneys is more copious, and likewise white and thin, and not fetid; (4.) the urine looks like milk when it is first made, but after standing a considerable time, the matter separates from it, and falls to the bottom.

Take of the plaister called the flower of ointments, three drams; make it into nine pills, three of which are to be taken in the morning, at four in the afternoon, and at bed-time, with six spoonfuls of the following distilled water after them.

Take of the roots of fennel, comfrey, birthwort, and avens, of each three ounces; the leaves of agrimony, St John's wort, sanicle, and plantain, of each six handfuls; the ingredients being sliced and bruised, pour thereon white wine and milk, of each two quarts; and afterwards draw off only two quarts for use.

Take of comfrey root, and gum-arabic, each an ounce; fine sugar, two ounces; make them into a powder, a spoonful of which must be taken twice a day.

Of an obstinate asthma in sanguine constitutions.

1. **T**H E R E are three kinds of this disorder. (1.) A *Dyspnœa*, which is a dense quick and difficult respiration, without a *stertor* or rattling, and proceeds from a stuffing of the lungs. (2.) An *Asthma*, which is a quick and difficult respiration, accompanied with violent motions of the diaphragm, intercostal and abdominal muscles, and a rattling in the throat. In the former species the lungs themselves, and in the

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latter the *bronchia* are stuffed. (3.) An *Orthopnœa*, which is the greatest difficulty of breathing, insomuch that the patient cannot breathe but in an erect posture, and is attended with violent motions of the muscles of the breast and shoulders.

2. Take away ten ounces of blood from the right arm, and next day give the common purging potion, which must be repeated twice more, once every third day.

3. On the intermediate days of purging let the following medicines be used.

*Take of the seeds of anise, finely powder'd, two drams ;
Lucatellus's balsam, enough to bring it into a mass
for pills, and make six pills of a dram, three of which
are to be taken every morning, and at five in the
afternoon, drinking four ounces of the bitter decoc-
tion without purgatives, warm, after them.*

4. If the disorder do not go off let the whole process be repeated.

Of the palsy.

1. **T**HE palsy is a deprivation either of motion and the sense of touch in the affected parts, or of only one of them.

2. Two scruples of the lesser *pil. cochix* must be exhibited every other day for six days, and afterwards two drams of the antiscorbutic electuary, with six spoonfuls of the antiscorbutic water hereafter prescribed for a scurvy, thrice a day, for the space of thirty days. *

*Take of nerve ointment, three ounces ; compound spi-
rit of lavender, and spirit of scurvy-grass, each an
ounce and half ; mix them together for a liniment,
with which the affected parts, as the spine, &c. are
to be anointed morning and night.*

3. Most of the remedies we shall there set down, tho' they should seem appropriated only to the cure of the scurvy, yet inasmuch as they are admirably suited to volatilize crude and fixt humours, are likewise proper in the palsy.

Of

* See page 615.

Of a cough and a consumption.

1. **A** Cough discovers itself; but a consumption attacks persons from eighteen to thirty five years of age, the signs of which are, (1.) a wasting of the parts of the body; (2.) a hectic fever, discoverable by the quickness of the pulse, flushing of the cheeks, and its increasing after eating; (3.) the matter expectorated by coughing is either bloody, or purulent, sinks in water, and being thrown into the fire emits a fetid smell, and these symptoms are succeeded by (4.) night sweats; (5.) a lividness of the cheeks at length; (6.) paleness of the face, and (7.) sharpness of the nose; (8.) sinking of the temples, (9.) incurvation of the nails, (10.) falling of the hair, and (11.) a colliquative looseness, which latter symptoms foreshew immediate death.

2. If the cough be recent, and unattended with a fever, or the other concomitants of a bastard peripneumony, and does not succeed a pleurisy or peripneumony for want of sufficient bleeding, the patient need only forbear wine and flesh, and use the following remedies at pleasure.

3. Let ten drops of balsam of sulphur with oil of aniseed be taken in a small spoonful of fine sugar, twice or thrice a day, and one of the following troches often, which should be carried in the pocket for this purpose.

Take of sugar-candy, a pound and half; boil it in a requisite proportion of common water till it sticks to the ends of the fingers; then add powder of liquorice, elecampane, aniseed, and angelica, of each half an ounce; powder of Florentine orice root, and flower of sulphur, each two drams; oil of aniseed, two scruples; mix them together according to the rules of art, and make them into troches, to be entitled family troches.

4. The following linctus should be used at the same time.

Take of the oil of sweet almonds, two ounces; syrup of maiden-hair and violets, of each an ounce; sugar-candy,

candy, enough to make them into a linctus, to be taken frequently of a liquorice stick, when the cough is troublesome.

5. If the matter expectorated be thin, an incraffating linctus should be exhibited.

6. But if the cough yields not to this treatment, and especially if it be attended with a fever, or succeed a pleurisy, or peripneumony, it would be trifling to trust to pectorals, inasmuch as it must be cured by bleeding and purging, according to the method above delivered for the cure of the bastard peripneumony. *

7. And if notwithstanding this procedure, the cough does not only continue troublesome, but by long shaking the lungs has weakened them so much, as at length to cause a consumption, recourse is to be had to the following method.

8. Give ten drops of balsam of *Peru* in a spoonful of syrup of ground-ivy, or, if that be disagreeable, in a spoonful of sugar, thrice a day, with four ounces of the bitter decoction without purgatives after it, or only three ounces, if the former quantity open the body.

9. But the best remedy hitherto discovered in this case, is riding sufficiently long journeys on horseback, provided this exercise be long enough continued: observing that the middle-aged must persist in it much longer than children, or young persons. For, in reality, the *Peruvian* bark is not more certainly curative of an intermittent fever, than riding is of a consumption, at this time of life.

Of the scurvy.

1. **T**HE scurvy is accompanied with (1.) spontaneous lassitude, (2.) heaviness, (3.) difficulty of breathing, especially after exercise, (4.) rottenness of the gums, (5.) fetid breath, (6.) frequent bleeding at the nose, (7.) difficulty of walking, (8.) a swelling sometimes, and sometimes a wasting of the legs, on which spots always appear, that are either livid, or of a lead, yellow, or purple colour, and (9.) a fallow complexion.

2. Let eight ounces of blood be taken away from the arm, provided there be no sign of a dropsy, and

.. next

* See p. 463

next morning give my common purging potion, and repeat it a third time, once every three days.

3. On the intermediate days of purging, let the following medicines be taken, and the use of them continued for a month or two afterwards.

Take of the conserve of garden scurvy-grafs, two ounces ; conserve of wood sorrel, an ounce ; compound powder of wake-robin, six drams ; syrup of oranges, a sufficient quantity to make them into an electuary, of which a piece as big as a large nutmeg is to be taken every morning, at five in the afternoon, and at night, drinking six spoonfuls of compound horse-radish water, or the following distill'd water after it.

Take of the root of horse-radish, slic'd thin, two pound ; the root of wake-robin, a pound ; the leaves of garden scurvy-grafs, twelve handfuls ; mint, sage, water-creffes, and brook-lime, of each six handfuls ; scurvy-grafs seed, a little bruised, half a pound ; nutmegs half an ounce ; white wine, six quarts ; draw off only three quarts for use in a common still.

4. Or distil scurvy-grafs, fresh gather'd for the same purpose. The patient ought likewise to use the following medicated beer for common drink.

Take of the root of horse-radish, fresh gather'd, two drams ; twelve leaves of scurvy-grafs, six raisins ston'd, and half a Seville orange ; bruise and slice the ingredients, and infuse them in a large glass vessel, well corked, in a quart of small-beer.

5. Let six bottles of this beer be made at one time, and in a few days, before it be finish'd, fix more, and renew them for the future in the same manner.

6. Or instead of this beer, three or four spoonfuls of the following mixture may be added to every draught of the patient's common drink.

Take of the root of horse-radish, and the seeds of scurvy-grafs, of each half an ounce ; the leaves of scurvy-grafs, two handfuls ; and a Seville orange, without the peel ; bruise them together in a marble mortar, pouring thereon by degrees half a pint of white wine ;

and afterwards press out the liquor gently, and set it by for use.

7. The same remedies are likewise very beneficial in the scorbutic, or hysteric rheumatism, except bleeding and purging, which must not be used in these distempers.

Of the gout.

1. **T**HIS distemper comes towards the latter end of *January*, or the beginning of *February*, and begins commonly about two in the morning with a pain in the great toe, but sometimes in the heel, the ankle, or the calf of the leg ; immediately, a chilness, shivering and slight fever succeed, the pain increases gradually every hour, and the chilness and shivering abate in proportion as the pain grows more severe, which at length comes to its height towards night, sometimes resembling a violent tension, sometimes the gnawing of a dog, and sometimes a weight and constriction of the parts affected, which becomes so exquisitely painful, that the patient cannot bear the weight of the cloths upon it, nor the shaking of the room from walking briskly therein. The pain does not abate till two or three the next morning, that is in twenty four hours from the beginning of the fit, when the patient being in a breathing sweat falls asleep, and at waking finds the pain much abated, and the part affected newly swell'd. A slight pain is felt next day, and sometimes the two or three following days, which increases towards evening, and remits towards break of day. In a few days it seizes the other foot in the same manner, and after attacking both feet, the subsequent fits prove irregular both with respect to the time of seizure, and their duration, and what we term a fit of the gout is made up of a number of these small fits, and goes off sooner, or later, according to the age of the patient. Thus for instance, in strong constitutions, and such as seldom have the gout, the fit frequently goes off in a fortnight ; but in the aged, and those that have frequent returns of the disease, it lasts two months ; and in such as are more debilitated either with age, or the long continuance of the distemper, the fit does not

go off till summer advances, which drives it away.

2. During the first fortnight the urine is high-colour'd, and lets fall a gravelly sediment, and the patient is usually costive. A loss of appetite, and a chilness of the whole body towards evening, accompany the fit throughout; and when it is going off, a violent itching seizes the affected foot between the toes, and afterwards the skin of it peels off by scales.

3. In this state of the distemper the pain only affects the foot; but when the gout is exasperated either by wrong management, or long continuance, so that the substance of the body is in a manner chang'd into gouty matter, it then seizes the hands, wrists, elbows, knees, and other parts; sometimes rendering one or more fingers crooked, by degrees destroying their motion, and forming at length stony concretions in the ligaments of the joints, like chalk, or crabs eyes. Sometimes it occasions a whitish swelling upon the elbow, almost as large as an egg, which gradually inflames, and grows red. Sometimes it seizes the thigh, which seems to sustain a great weight, yet without much pain, and thence gaining the knee, attacks that part more violently, and the limbs are now so contracted, and disabled, that the patient halts along with pain. The urine resembles that which is voided in a diabetes, and the back and other parts itch much towards bed-time.

4. After many severe fits, the subsequent fits are less painful, nature being partly oppress'd by the large quantity of peccant matter, and partly by old age; but instead of the usual outward pain, the patient is seized with a sickness at stomach, pain in the belly, spontaneous lassitude, and sometimes a tendency to a looseness. Upon the return of the pain into the joints the symptoms go off, and the pain and sickness coming thus by turns, prolong the fit considerably.

5. In many persons the gout breeds the stone in the kidneys. It seldom attacks women, and only the aged of this sex, and those of a masculine habit of body. Children and young persons rarely have it.

6. The curative indication consists in strengthening the digestive powers, having first carried off the foul hu-

Complete methods of curing most diseases.

humours, and this is done either by medicine, diet, or exercise, or any other of the non-naturals.

7. Bleeding, purging, and sweating do not answer the end; tho' in such as have the stone in the kidneys, and in consequence thereof make bloody-urine, it is proper to open the body once a week with a dose of manna and exhibit an opiate in the evening after the operation.

8. The medicines that answer the above-mentioned intention, are such as are moderately heating, and are either bitter, or of a mild pungent taste. For instance, the roots of angelica, and elecampane, the leaves of wormwood, the lesser centory, germander, ground-pine, and the like; whereto may be added such as are entitled antiscorbutics, as horse-radish root, garden scurvy-grass, water-creffes, and the like: but these, as they agitate the morbid matter, and increase the heat, must be used more sparingly than the former, which by their mild heat and bitterness strengthen the stomach. The following electuary and distill'd water are no contemptible medicines.

Take of the conserve of garden scurvy-grass, an ounce and half; the conserves of Roman wormwood, and orange-peel, of each an ounce; candied angelica and nutmeg, each half an ounce; Venice-treacle, three drams; compound powder of wake robin, two drams; syrup of oranges enough to make the whole into an electuary, two drams of which is to be taken twice a day, with five or six spoonfuls of the following distill'd water after it.

Take of horse-radish root, slic'd, three ounces; garden scurvy-grass twelve handfuls; water-creffes, brooklime, sage and mint, of each four handfuls; the peel of six oranges; and two nutmegs bruis'd; Brunswick beer, or mum, six quarts; draw off only three quarts for use by the common still.

9. These digestive medicines are to be taken daily with great exactness, and especially in the intervals of the fits.

10. Such a moderation should be observed in point of diet, as on the one hand, to avoid eating more than the stomach can digest, and on the other hand not to be

be so over-abstemious, as to rob the parts of the proportion of nourishment, requisite to keep up the strength. As to the quality of the food, the patient's palate is to be consulted, but he ought to eat only of one kind at a meal ; as to the rest, excepting flesh, he may eat other things at pleasure, provided they are not acid, salted, or season'd with spices. As to the time of eating, it is best to be content with a dinner only, and instead of a supper to drink a draught of small beer, which is preventive of the growth of the stone.

11. The best liquors for gouty persons are such as are weaker than wine, and not so weak as water, lest they hurt the stomach by their coldness. Of this kind is our small-beer, or wine diluted well with water, for water by itself is pernicious : but when the whole substance of the body is in a manner degenerated into the gout, the patient should forbear all fermented liquors, even of the softest and smallest kind, and use the following diet-drink for common drink: beginning with it immediately after the fit is gone off, and continuing it for the remainder of life.

Take of sarsaparilla ; six ounces, saffraſas wood, China root, and the shavings of hartshorn, each two ounces ; liquorice-root, an ounce ; boil them together in two gallons of spring-water for the space of half an hour and afterwards infuse them upon hot ashes, close cover'd, for twelve hours ; then boil them till a third part of the liquor is exhal'd ; and as soon as it is taken off the fire, infuse therein half an ounce of aniseeds for two hours ; lastly, strain it off, and let it rest, till it grows clear, and bottle it for use.

12. But if the patient, either (1.) from a long continued and over-free use of strong liquors ; (2.) from old age, or (3.) extreme weakness, cannot digest his food without wine, he may drink a glass of *Spanish* wine at meals, and leave off the diet-drink.

13. The patient should both go to bed and rise early, especially in winter, keep his mind easy, and avoid too much application to study and business.

14. But the best remedy is moderate exercise daily used : as to the kind, riding on horseback, or in a coach in a healthy air, is to be prefer'd, if not contra-

tra-

tra-indicated by age, or the stone. Venereal pleasures must not be indulged, and all outward applications forborn.

15. But tho' nothing of moment must be attempted in the fit, yet the patient should forbear flesh for a few days in the beginning of it, and instead thereof use water-gruel, or the like aliment; but if the spirits are subject to be disorder'd, the patient should refrain flesh no longer than the stomach is set against it; but he must carefully guard against all errors in the quantity or quality of the diet.

16. The symptoms endangering life must be relieved, the most frequent of which are, the faintness of the stomach, attended with gripings, as if occasioned by wind; in which case nothing is so effectual as a small draught of canary, occasionally using exercise at the same time. But if some violent symptom threatens immediate death, (provided the head be not affected) we must have recourse to laudanum directly, exhibiting twenty drops of it, in a small draught of plague water, and the patient must compose himself to rest in bed. But if thro' some error committed in the use of the non-naturals, a violent sickness at stomach succeeds, with vomiting and gripings, and the limbs at this time, from the striking in of the morbid matter, are free from pain, and better disposed to motion than ordinary, the following method is to be used, which formerly snatch'd me from imminent death. Let the patient drink a gallon of posset-drink, or small-beer, and as soon as it is all thrown up again by vomiting, give him a small draught of canary, with eighteen drops of laudanum in it. And if the symptoms yield not to this treatment, let a sweat be raised morning and night for two or three days running, and kept up for two or three hours at a time, by a method and medicines adapted to procure it.

17. A translocation of the morbid matter to the lungs, the limbs in the mean time being freed from the pain and swelling, is to be treated like a true peripneumony, *viz.* by repeated bleeding, cooling and thickening medicines, and a regimen of the same kind, and purging with lenient purgatives in the intervals of bleeding: but raising a sweat is prejudicial in this case.

Of a consumption.

1. THERE are several kinds of consumptions. (1.)

The first mostly arises from taking cold in winter; abundance of persons being seiz'd with a cough upon the coming in of cold weather, a little before the winter solstice, which happening to such as have naturally weak lungs, these parts must needs be still more weakened by frequent fits of coughing, and become so diseased at length hereby, as to be utterly unable to assimilate their proper nourishment. Hence a copious crude phlegm is collected, which by the continual agitation of the lungs, occasioned by the vehement cough accompanying this distemper, is plentifully expectorated. The lungs being hereby supplied with purulent matter taint the whole mass of blood therewith, whence arises a putrid fever, the fit whereof comes towards evening, and goes off towards morning with profuse and debilitating sweats. Lastly, a looseness succeeds, occasioned partly by corrupt humours, discharged from the mesenteric arteries into the intestines, and deposited there, and partly by the weakened tone of the *viscera*; and thus the patient perishes at length the following summer by a distemper occasioned by the foregoing winter. And this is the principal kind of this disease.

2. Moreover, as the blood in winter abounds with moist particles, and perspiration is too much check'd by the sudden contraction of the pores, these particles insinuate themselves into the lungs, thro' the ramifications of the arterial vein, or pulmonary artery, which run thro' the whole substance of the lungs, or are discharged by the salival ducts, and deposited in the glands of the throat, whence the humour being now fallen thro' the *aspera arteria* upon the lungs, irritates these parts continually, like a catarrh, and the frequent and violent fits of coughing, soon cause the weakness and other symptoms above-enumerated. And when the lungs lose their natural tone, tubercles ordinarily breed therein; which, upon viewing the lungs of those that perish by this distemper generally appear filled with a purulent matter.

3. When

3. When this disease is confirmed, it for the most part proves incurable. The cure, however, may be attempted, (1.) by lessening the cause of the defluxion upon the lungs, by bleeding and mild purgatives joined with pectorals, suited to the different states of the disease: for instance, exhibiting increassants when the humour is too thin to be expectorated, and attenuants when it is thick and expectorated with difficulty (2.) The hectic fever must likewise be check'd by cooling medicines; such as asses milk, milk-water, emulsions made of sweet almonds, the seeds of melons, pumpkins, and white poppies, cowslip flower water, and the like. (3.) Lastly, the cure of the ulcer must be undertaken; for which purpose the liquid turpentine, vulgarly call'd *opobalsamum*, is esteemed an excellent remedy.

4. The cure of this disease, in my opinion, is most successfully attempted in the following manner. (1.) First bleed in the arm, then purge three days with the greater *pil. cochiae*, or my common purging potion, and the third night give half an ounce of syrup of white poppies. (2.) After an interval of two or three days exhibit another purge, and repeat it as often as there is occasion, till the symptoms either go quite off, or at least abate. (3.) After every purgation, let the patient take twenty drops of *opobalsamum* upon a piece of fine sugar, without drinking after it, or a pill made of *Chio* turpentine, and fine sugar: but *opobalsamum* is not to be used unless suitable evacuations have been previously made. An electuary may be substituted instead of it, made of *Lucatellus's* balsam, liquorice powder, aniseeds, and turpentine. (4.) After using evacuations care must be had to abate the cough, for fear the lungs should be weakened by the continual agitation thereby caus'd. And for this purpose syrup of white poppies is the best remedy, and may be administered in the following form.

Take of the pectoral decoction, a pint; syrup of white poppies, and maiden hair, of each two ounces; mix them together, and let five spoonfuls be taken three times a day.

5. This medicine being frequently used, will abate the defluxion upon the lungs in some measure, and help to recover their former tone, unless the weakness has been of long standing, and will likewise promote the concoction of the purulent matter lodged therein.

6. But the principal assistant in the cure of this disease is riding on horseback every day, inasmuch that whoever has recourse to this exercise in order to his cure, need not be tied down to observe any rules in point of diet, nor be debarred any kind of solid or liquid aliment, as the cure depends wholly upon exercise. Some persons that have been recover'd by this method have been seiz'd with a tumor in the neck like a scrophulous swelling.

7. (2.) There is another kind of consumption, proceeding from a cough, which comes at a different season of the year, namely, at the beginning of summer. It frequently attacks young persons of weakly constitutions, whose blood is over-stock'd with hot acrimonious particles. Such subjects having over-heated themselves by drinking generous liquors too freely, force up blood from the lungs by coughing, and feel a slight sort of pain in those parts: and these symptoms not being removed in due time by proper remedies, an ulcer is soon generated in the lungs, whence *pus* is at length expectorated.

8. This kind of consumption is easily cured, at least in the beginning, by bleeding and purging twice alternately, along with a cooling and thickening diet, and a total abstinence from flesh.

9. (3.) The third kind of this distemper arises from a translocation of febrile matter to the lungs in the declension of a fever, which being more debilitated hereby, are attacked with the symptoms just enumerated.

10. Sometimes a consumption proceeds from the purulent matter left behind in a pleurisy, for want of having been plentifully expectorated, and requires the same treatment as an *Empyema*.

11. (4.) Those that have been weaken'd by immoderate and too frequent evacuations are seiz'd with a fourth kind of consumption, in which a hectic fever comes every night after supper; and these persons are most subject to *aphtæ*.

F I N I S.

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